

## **General Disclaimer**

### **One or more of the Following Statements may affect this Document**

- This document has been reproduced from the best copy furnished by the organizational source. It is being released in the interest of making available as much information as possible.
- This document may contain data, which exceeds the sheet parameters. It was furnished in this condition by the organizational source and is the best copy available.
- This document may contain tone-on-tone or color graphs, charts and/or pictures, which have been reproduced in black and white.
- This document is paginated as submitted by the original source.
- Portions of this document are not fully legible due to the historical nature of some of the material. However, it is the best reproduction available from the original submission.

PB86-176450

Solar-Geophysical Data Number 482, October 1984  
Part 2 (Comprehensive Reports). Data for  
April 1984, November 1981 and Miscellaneous

(U.S.) National Geophysical Data Center  
Boulder, CO

Prepared for

National Aeronautics and Space Administration  
Washington, DC

Oct 84

U.S. Department of Commerce  
National Technical Information Service

**NTIS**

OCTOBER 1984 NUMBER 482 -- Part II

# Solar-Geophysical Data comprehensive reports



Data for April 1984, November 1981, &amp; Miscellaneous

Explanation of Data Reports Issued as Number 474 (Supplement) February 1984

**LATE SOLAR FLARE DATA NOVEMBER 1981**
**Pages 103-107**


REPRODUCED BY  
**NATIONAL TECHNICAL  
 INFORMATION SERVICE**  
 U.S. DEPARTMENT OF COMMERCE  
 SPRINGFIELD, VA. 22161

**noaa**
**NATIONAL OCEANIC AND  
 ATMOSPHERIC ADMINISTRATION**
**NATIONAL ENVIRONMENTAL SATELLITE,  
 DATA, AND INFORMATION SERVICE**
**NATIONAL GEOPHYSICAL  
 DATA CENTER**
**BOULDER,  
 COLORADO**



## U.S. DEPARTMENT OF COMMERCE

Malcolm Baldrige, Secretary

### NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

John V. Byrne, Administrator

### NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE

John H. McElroy, Assistant Administrator

## Solar - Geophysical Data

### Part II (Comprehensive Reports)

NO. 482 OCTOBER 1984

Michael A. Chinnery, Director  
NATIONAL GEOPHYSICAL DATA CENTER  
BOULDER, COLORADO

DATA FOR  
APRIL 1984  
NOVEMBER 1981

International Standard Serial Number: 0038-0911

Library of Congress Catalog Number: 79-640375 //r81

For sale through the National Geophysical Data Center, NOAA/NESDIS, E/GC2, 325 Broadway, Boulder, Colorado 80303. Subscription Price for the U.S., Canada and Mexico: \$70.00 annually for both Part I (Prompt Reports) and Part II (Comprehensive Reports) or \$35.00 annually for either part. Annual supplement containing explanation is included. For foreign mailing \$90.00 for both parts or \$45.00 for either part. We now require prepayment for all orders. Please include with your request a check or money order payable in U.S. currency to the Department of Commerce, NOAA/NGDC. Any bank charges should be paid by the subscriber. Payment may be made through an American Express, Mastercard or VISA credit cards. Please include the correct name of credit card holder, card number and expiration date. Prices are subject to change. UNESCO coupons acceptable.

For obtaining bulletins on a data exchange basis, send request to: World Data Center A for Solar-Terrestrial Physics, NOAA/NESDIS/NGDC, E/GC2, 325 Broadway, Boulder, Colorado 80303.

#### BACK ISSUES OF "SOLAR-GEOPHYSICAL DATA"

| Reel# | Coverage        | Medium    | Reel# | Coverage        | Medium    | Reel# | Coverage        | Medium     |
|-------|-----------------|-----------|-------|-----------------|-----------|-------|-----------------|------------|
| 1     | Jan 56 - Dec 56 | Microfilm | 9     | Jan 64 - Dec 64 | Microfilm | 17    | Jul 69 - Dec 69 | Microfilm  |
| 2     | Jan 57 - Dec 57 | Microfilm | 10    | Jan 65 - Dec 65 | Microfilm | 18    | Jan 70 - Jun 70 | Microfilm  |
| 3     | Jan 58 - Dec 58 | Microfilm | 11    | Jan 66 - Sep 66 | Microfilm | 19    | Jul 70 - Dec 70 | Microfilm  |
| 4     | Jan 59 - Dec 59 | Microfilm | 12    | Oct 66 - Dec 66 | Microfilm | 20    | Jan 71 - Jun 71 | Microfilm  |
| 5     | Jan 60 - Dec 60 | Microfilm | 13    | Jan 67 - Dec 67 | Microfilm | 21    | Jul 71 - Dec 71 | Microfilm  |
| 6     | Jan 61 - Dec 61 | Microfilm | 14    | Jan 68 - Jun 68 | Microfilm | 22    | Jan 72 - Jun 72 | Microfilm  |
| 7     | Jan 62 - Dec 62 | Microfilm | 15    | Jul 68 - Dec 68 | Microfilm | 23    | Jul 72 - Dec 72 | Microfilm  |
| 8     | Jan 63 - Dec 63 | Microfilm | 16    | Jan 69 - Jun 69 | Microfilm |       | 1973 - 1984     | Microfiche |

Microfilm are available at \$30.00 per reel; microfiche at \$40.00 per year; \$1,000.00 for above set. Back issues in booklet form are available as long as stocks exist at \$4.00 for either part plus a \$5.00 handling charge per order. Foreign orders must be over \$10.00.

To standardize referencing these reports in the open literature, the following format is recommended: Solar-Geophysical Data, 474 Part I (or Part II), pages, February 1984, U.S. Department of Commerce (Boulder, Colorado, USA 80303).

ISSN #0038-0911

-A-



## BIBLIOGRAPHIC INFORMATION

PB86-176450

Solar-Geophysical Data Number 482, October 1984. Part 2  
(Comprehensive Reports). Data for April 1984, November 1981  
and Miscellanea,

Oct 84

by H. E. Coffey.

PERFORMER: National Geophysical Data Center, Boulder, CO.  
Contract W-15519, Grant NSF-ATM83-1491

SPONSOR: National Aeronautics and Space Administration,  
Washington, DC.

See also PB86-176443, and PB86-168648. Sponsored by National  
Aeronautics and Space Administration, Washington, DC., and  
National Science Foundation, Washington, DC.

Contents: Detailed index for 1984; Data for April 1984;  
(Solar radio bursts at fixed frequencies; Solar X-ray  
radiation from GOES satellite; Mass ejections from the sun;  
Active prominences and filaments); Data for November 1981--  
(Solar flares November 1981; Number of flares August 1966 -  
November 1981); Miscellaneous data--Meudon carte  
synoptique.

KEYWORDS: \*Solar activity.

Available from the National Technical Information Service,  
SPRINGFIELD, VA. 22161

PRICE CODE: PC A06/MF A01

# SOLAR - GEOPHYSICAL DATA

NUMBER 482

(Issued in Two Parts)

Editor:  
Helen E. Coffey, Physicist

Joe H. Allen, Chief  
Solar-Terrestrial Physics Division

Staff:  
John A. McKinnon, Physicist  
Daniel C. Wilkinson, Physicist  
Viola W. Miller, Physical Science Technician  
Carol Weathers, Editorial Assistant  
Charles T. Shanks, Draftsman

## C O N T E N T S

### PART I (PROMPT REPORTS)

|                                                        | Page   |
|--------------------------------------------------------|--------|
| DETAILED INDEX FOR 1984 . . . . .                      | 2      |
| DATA FOR SEPTEMBER 1984 . . . . .                      | 3- 22  |
| DATA FOR AUGUST 1984. . . . .                          | 23- 83 |
| LATE DATA . . . . .                                    | 85- 89 |
| Nancay 169 MHz Solar Interferometric Chart August 1984 |        |
| Pioneer 12 Interplanetary Magnetic Field July 1984     |        |
| Provisional Dst Values July 1984                       |        |
| Geomagnetic Sudden Commencements July 1984             |        |

### PART II (COMPREHENSIVE REPORTS)

|                                             | Page    |
|---------------------------------------------|---------|
| DETAILED INDEX FOR 1984. . . . .            | 2       |
| DATA FOR APRIL 1984 . . . . .               | 3- 59   |
| SOLAR FLARE DATA NOVEMBER 1981 . . . . .    | 61-101  |
| MISCELLANEOUS DATA . . . . .                | 103-107 |
| Carte Synoptique Meudon 3 Mar - 26 Apr 1984 |         |

Published with partial support from NASA (W-15,519) and NSF (ATM-831491).

## DETAILED INDEX OF OBSERVATIONS PUBLISHED IN "SOLAR-GEOPHYSICAL DATA"

| CODE  | KIND OF OBSERVATION                      | FEB                                              | MAR                                                                    | APR      | MAY     | JUN     | JUL     | AUG     | SEP     |
|-------|------------------------------------------|--------------------------------------------------|------------------------------------------------------------------------|----------|---------|---------|---------|---------|---------|
| A.    | SOLAR AND INTERPLANETARY PHENOMENA       |                                                  |                                                                        |          |         |         |         |         |         |
| A.1   | Sunspot Drawings                         | 476A 46                                          | 477A 50                                                                | 478A 52  | 479A 34 | 480A 32 | 481A 36 | 482A 28 |         |
| A.2aa | Internat. Provisional Sunspot Numbers    | 475A 9                                           | 476A 11                                                                | 477A 9   | 478A 9  | 479A 9  | 480A 9  | 481A 7  | 482A 7  |
| A.2c  | American Sunspot Numbers                 | 475A 9                                           | 476A 11                                                                | 477A 9   | 478A 9  | 479A 9  | 480A 9  | 481A 7  | 482A 7  |
| A.3a  | Mt. Wilson Magnetograms                  | 476A 46                                          | 477A 50                                                                | 478A 52  | 479A 34 | 480A 32 | 481A 36 | 482A 28 |         |
| A.3b  | Mt. Wilson Sunspot Magnetic Class        | 476A 75                                          | 477A 81                                                                | 478A 82  | 479A 65 | 480A 62 | 481A 67 | 482A 59 |         |
| A.3c  | Kitt Peak Magnetograms                   | 476A 46                                          | 477A 50                                                                | 478A 52  | 479A 34 | 480A 32 | 481A 36 | 482A 28 |         |
| A.3d  | Mean Solar Magnetic Field (Stanford)     | 475A 42                                          | 476A 38                                                                | 477A 42  | 478A 44 | 479A 26 | 480A 24 | 481A 23 | 482A 21 |
| A.3e  | Stanford Magnetograms                    | 476A 46                                          | 477A 50                                                                | 478A 52  | 479A 34 | 480A 32 | 481A 36 | 482A 28 |         |
| A.4   | H-alpha Filtergrams                      | 476A 46                                          | 477A 50                                                                | 478A 52  | 479A 34 | 480A 32 | 481A 36 | 482A 28 |         |
| A.5   | Calcium Plage Photographs                | Sep 82 - Mar 83 data in 479A105                  |                                                                        |          |         |         |         |         |         |
| A.5a  | Calcium Plage and Sunspot Regions        |                                                  |                                                                        |          |         |         |         |         |         |
| A.5b  | Daily Calcium Plage Indices              | Jan 82 - Mar 83 in 477A122                       |                                                                        |          |         |         |         |         |         |
| A.6   | H-alpha Synoptic Charts                  | 476A 42                                          | 477A 46                                                                | 478A 48  | 479A 30 | 480A 28 | 481A 28 | 482A 24 |         |
| A.6b  | Active Region Synoptic Chart (Paris)     | 479B 87                                          | 482B104                                                                | 482B105  |         |         |         |         |         |
| A.6c  | Stanford Solar Mag Field Synoptic Maps   | 476A 43                                          | 477A 47                                                                | 478A 49  | 479A 31 | 480A 29 | 481A 30 | 482A 25 |         |
| A.6d  | Kitt Peak Solar Mag Field Synoptic Maps  | 476A 44                                          | 477A 48                                                                | 478A 50  | 479A 32 | 480A 30 | 481A 32 | 482A 26 |         |
| A.6e  | K <sub>rs</sub> Ejections from the Sun   | 480B 57                                          | 481B 33                                                                | 482B 57  |         |         |         |         |         |
| A.6f  | Active Prominences and Filaments         | 480B 58                                          | 481B 34                                                                | 482B 58  |         |         |         |         |         |
| A.7g  | Kitt Peak Helium Synoptic Maps           | 476A 45                                          | 477A 49                                                                | 478A 51  | 479A 33 | 480A 31 | 481A 34 | 482A 27 |         |
| A.7h  | Coronal Line Emission (Sacramento Peak)  | 476A 46                                          | 477A 50                                                                | 478A 52  | 479A 34 | 480A 32 | 481A 36 | 482A 28 |         |
| A.8aa | 2800 MHz - Solar Flux (Ottawa)           | 475A 9                                           | 476A 11                                                                | 477A 9   | 478A 9  | 479A 9  | 480A 9  | 481A 7  | 482A 7  |
| A.8ac | 2800 MHz - Adj. Solar Flux (Ottawa)      | 475A 9                                           | 476A 11                                                                | 477A 9   | 478A 9  | 479A 9  | 480A 9  | 481A 7  | 482A 7  |
| A.8g  | Adjusted Daily Solar Fluxes (Sagamore)   | 475A 9                                           | 476A 11                                                                | 477A 9   | 478A 9  | 479A 9  | 480A 9  | 481A 7  | 482A 7  |
| A.10a | Interferometric Chart -169 MHz- Nancy    | 475A 27                                          | 476A 27                                                                | 477A 26  | 478A 27 | 479A 18 | 480A 17 | 481A 86 | 482A 15 |
| A.10c | East-West Scans - 21 cm - Fleurs         | 475A 30                                          | 476A 30                                                                | 477A 29  | 478A 30 | 479A 21 | 480A 20 | 481A 19 | 482A 18 |
| A.10d | East-West Scans - 43 cm - Fleurs         | 475A 31                                          | 476A 31                                                                | 477A 30  | 478A 31 | 479A 22 | 480A 21 | 481A 20 | 482A 18 |
| A.10e | East-West Scans - 10 cm - Ottawa         | 475A 29                                          | 476A 29                                                                | 477A 28  | 478A 29 | 479A 20 | 480A 19 | 481A 18 | 482A 17 |
| A.10f | East-West Scans - 3 cm - Toyokawa        | 475A 28                                          | 476A 28                                                                | 477A 27  | 478A 28 | 479A 19 | 480A 18 | 481A 17 | 482A 16 |
| A.11g | Solar X-ray SMS/GOES (graphs)            | 480B 52                                          | 481B 27                                                                | 482B 52  |         |         |         |         |         |
| A.12e | Solar Particles (IMP H & J)              | 1982 data in 476B 66; Jan-Mar 83 data in 478B 28 |                                                                        |          |         |         |         |         |         |
| A.13d | Solar Wind from IP Scintillations        |                                                  |                                                                        |          |         |         |         |         |         |
| A.13e | Solar Plasma (IMP H & J)                 | May 82 - Sep 83 data in 477B 62-78               |                                                                        |          |         |         |         |         |         |
| A.13f | Solar Wind (Pioneer 12)                  |                                                  |                                                                        |          |         |         |         |         |         |
| A.17  | Interplanetary Mag Field (Pioneer 12)    | 477A136                                          | 480A 98                                                                | 480A 99  | 481A 99 | 481A 99 | 482A 87 |         |         |
| A.17c | Inferred Interplanetary Magnetic Field   | 475A 40                                          | 476A 36                                                                | 477A 40  | 478A 42 |         |         |         | 482A 20 |
| B.    | IONOSPHERIC RADIO PROPAGATION PHENOMENA  |                                                  |                                                                        |          |         |         |         |         |         |
| B.52  | Field Strength Graphs - North Atlantic   | 476A112                                          | 477A116                                                                | 478A 118 | 479A 96 | 480A 92 | 481A 94 | 482A 82 |         |
| B.53  | Quality Indices on Paths to Germany      | 476A114                                          | 477A115                                                                | 478A 120 | 479A 95 | 480A 91 | 481A 93 | 482A 81 |         |
| C.    | SOLAR FLARE-ASSOCIATED EVENTS            |                                                  |                                                                        |          |         |         |         |         |         |
| C.1a  | H-alpha Flares                           | 475A 14                                          | 476A 16                                                                | 477A 14  | 478A 14 | 479A 14 | 480A 14 | 481A 12 | 482A 12 |
| C.1ba | H-alpha Flare Groups                     | 1981                                             | Sep 81 data in 480B 61; Oct 81 data in 481B 38; Nov 81 data in 482B 62 |          |         |         |         |         |         |
| C.1d  | Flare Patrol Observations                | 475A 26                                          | 476A 26                                                                | 477A 25  | 478A 26 | 479A 17 | 480A 16 | 481A 15 | 482A 14 |
| C.1d  | Flare Patrol Observations                | 1981                                             | Sep 81 data in 480B 94; Oct 81 data in 481B 79; Nov 81 data in 482B100 |          |         |         |         |         |         |
| C.1e  | Flare Indices (by day)                   | 1981                                             | Sep 81 data in 480B 95; Oct 81 data in 481B 78; Nov 81 data in 482B 99 |          |         |         |         |         |         |
| C.3   | Radio Bursts Fixed Freq.*                | 480B 4                                           | 481B 4                                                                 | 482B 4   |         |         |         |         |         |
| C.3   | Radio Bursts Fixed Freq. Selected        | 475A 32                                          | 476A 32                                                                | 477A 31  | 478A 32 | 479A 23 | 480A 22 | 481A 21 | 482A 19 |
| C.4d  | Radio Bursts Spectral (Culgoora)         |                                                  |                                                                        |          |         | 480A 75 | 481A 81 |         |         |
| C.4e  | Radio Bursts Spectral (Weissenau)        | 476A 94                                          | 477A102                                                                | 478A 98  | 479A 81 | 480A 75 | 481A 81 | 482A 68 |         |
| C.4f  | Radio Bursts Spectral (Sagamore Hill)    | 476A 94                                          | 477A102                                                                | 478A 98  | 479A 81 | 480A 75 | 481A 81 | 482A 68 |         |
| C.4k  | Radio Bursts Spectral (Learmonth)        | 476A 94                                          | 477A102                                                                | 478A 98  | 479A 81 | 480A 75 | 481A 81 | 482A 68 |         |
| C.4l  | Radio Bursts Spectral (Palihua)          | 476A 94                                          | 477A102                                                                | 478A 98  | 479A 81 | 480A 75 | 481A 81 | 482A 68 |         |
| C.5e  | Solar X-ray SMS/GOES (graphs)            | 480B 52                                          | 481B 27                                                                | 482B 52  |         |         |         |         |         |
| C.6   | Sudden Ionospheric Disturbances          | 476A 88                                          | 477A 98                                                                | 478A 93  | 479A 76 | 480A 73 | 481A 79 | 482A 66 |         |
| D.    | GEOMAGNETIC & MAGNETOSPHERIC PHENOMENA   |                                                  |                                                                        |          |         |         |         |         |         |
| D.1a  | Geomagnetic Indices                      | 476A106                                          | 477A111                                                                | 478A111  | 479A 91 | 480A 86 | 481A 89 | 482A 76 |         |
| D.1ba | 27-day Chart of Kp Indices               | 476A108                                          | 477A113                                                                | 478A113  | 479A 93 | 480A 88 | 481A 91 | 482A 78 |         |
| D.1c  | 27-day Chart of Cg                       |                                                  |                                                                        |          |         |         |         |         |         |
| D.1d  | Principal Magnetic Storms                | 476A110                                          | 477A114                                                                | 478A116  | 479A 94 | 480A 89 | 481A 92 | 482A 80 |         |
| D.1f  | Sudden Commencement/Solar Flare Effects  | 477A121                                          | 479A100                                                                | 479A101  | 480A 96 | 480A 90 | 482A 89 |         |         |
| D.1g  | Equatorial Indices Dst                   | 476A109                                          | 478A123                                                                | 473A115  | 480A 97 | 481A 98 | 482A 88 | 482A 79 |         |
| D.1h  | Geomagnetic Substorm Log (Boulder)       | 475A 43                                          | 476A 39                                                                | 477A 43  | 478A 45 | 479A 27 | 480A 25 | 481A 24 |         |
| F.    | COSMIC RAYS                              |                                                  |                                                                        |          |         |         |         |         |         |
| F.1a  | Cosmic Ray Neutron Counts (Deep River)   | 476A105                                          | 477A107                                                                | 479A104  | 479A 87 | 480A 85 |         |         |         |
| F.1b  | Cosmic Ray Neutron Counts (Climax)       | 480A102                                          | 480A103                                                                | 480A104  | 480A105 | 480A 85 |         |         |         |
| F.1e  | Cosmic Ray Neutron Counts (Alert)        | 476A105                                          | 477A107                                                                | 479A104  | 479A 87 | 480A 85 |         |         |         |
| F.1h  | Cosmic Ray Neutron Counts (Thule)        | 476A105                                          | 477A107                                                                | 478A109  | 479A 87 | 480A 85 | 481A 85 | 482A 71 |         |
| F.1i  | Cosmic Ray Neutron Counts (Kiel)         | 476A105                                          | 477A107                                                                | 478A109  | 479A 87 | 480A 85 | 481A 85 | 482A 71 |         |
| F.1j  | Cosmic Ray Neutron Counts (Tokyo)        | 476A105                                          | 477A107                                                                | 478A109  | 479A 87 | 480A 85 | 481A 85 | 482A 71 |         |
| F.1j  | Cosmic Ray Neutron Counts (Huancayo)     | 480A102                                          | 480A103                                                                | 480A104  | 480A105 |         |         |         |         |
| F.1m  | Cosmic Ray Neutron Counts (Predigtstuhl) | 476A105                                          | 477A107                                                                | 478A109  | 479A 87 | 480A 85 | 481A 85 | 482A 71 |         |
| H.    | MISCELLANEOUS                            |                                                  |                                                                        |          |         |         |         |         |         |
| H.60  | UMDS Alert Periods                       | 475A 4                                           | 476A 5                                                                 | 477A 4   | 478A 4  | 479A 5  | 480A 5  | 481A 4  | 482A 4  |

The entry "476A 46" under Feb 1984, for example, means that the sunspot drawings for Feb 1984 appear in SOLAR-GEOPHYSICAL DATA No. 476, Part I, and that they begin on page 46. "A" denotes Part I and "B", Part II. Blanks indicate data not yet received and dashes mark unavailable data.

\*Solar radio noise bursts observed at Athens, Learmonth, Manila, Palihua and Sagamore Hill during Aug 1979 through Oct 1980 appear in SOLAR-GEOPHYSICAL DATA, No. 461, Part II, pages 103-235.

# CONTENTS

Comprehensive Reports

DATA FOR APRIL 1984

Number 482

Part II

|                                                                                   |       |
|-----------------------------------------------------------------------------------|-------|
| MEUDON CARTE SYNOPTIQUE                                                           | Page  |
| Active Regions and Filaments (See page 105.)                                      |       |
| Synoptic Solar Maps (See page 107.)                                               |       |
| SOLAR FLARES                                                                      |       |
| H-alpha Solar Flare Groups                                                        |       |
| Daily Flare Indices                                                               |       |
| Intervals of No Flare Patrol Observation<br>(Unavailable at time of publication)  |       |
| SOLAR RADIO BURSTS AT FIXED FREQUENCIES . . . . .                                 | 4-51  |
| INTERPLANETARY SOLAR PARTICLES AND PLASMA<br>(Unavailable at time of publication) |       |
| SOLAR X-RAY RADIATION FROM GOES SATELLITE . . . . .                               | 52-56 |
| MASS EJECTIONS FROM THE SUN . . . . .                                             | 57    |
| ACTIVE PROMINENCES AND FILAMENTS . . . . .                                        | 58-59 |

4  
Apr 84

# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

APRIL 1984

| Day | Freq  | Sta  | Type   | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density Peak (10 <sup>-22</sup> W/m <sup>2</sup> Hz) | Mean | Int | Remarks         |
|-----|-------|------|--------|------------|----------------------|----------------|-----------------------------------------------------------|------|-----|-----------------|
| 01  | 100   | GORK | 44 NS  | 0351.0E    |                      | 369.00         |                                                           | 5.0  |     |                 |
|     | 200   | GORK | 44 NS  | 0351.0E    |                      | 372.00         |                                                           | 15.0 |     |                 |
|     | 204   | IZMI | 43 NS  | 0600.0     |                      | 360.0          | 50.0                                                      |      |     |                 |
|     | 260   | ONDR | 44 NS  | 0618.0E    |                      | 460.00         | 44.0                                                      |      |     |                 |
|     | 536   | ONDR | 44 NS  | 0619.0E    |                      | 459.00         | 20.0                                                      |      |     |                 |
|     | 127   | TORN | 43 NS  | 0732.0     |                      | 300.00         |                                                           | 8.0  |     | V=1, DISTURBED  |
|     | 245   | SGMR | 44 NS  | 1046.0E    | 2107.1               |                | 950.0                                                     |      |     | QL=6 ST=3 TYP=1 |
|     | 245   | PALE | 43 NS  | 1708.0     | 0146.3               | 652.00         | 630.0                                                     |      |     | QL=6 ST=2 TYP=1 |
|     | 200   | HIRA | 44 NS  | 2022.0E    | 0622.0               | 760.00         | 670.0                                                     | 95.0 |     | SR              |
|     | 100   | HIRA | 44 NS  | 2022.0E    | 0653.0               | 760.00         | 550.0                                                     | 30.0 |     |                 |
|     | 208   | VORO | 44 NS  | 2200.0E    |                      | 360.00         |                                                           | 58.0 |     |                 |
|     | 245   | LEAR | 43 NS  | 2248.0     | 0630.6               | 678.00         | 800.0                                                     |      |     | QL=6 ST=2 TYP=1 |
|     | 410   | LEAR | 43 NS  | 2248.0     | 0638.0               | 678.00         | 42.0                                                      |      |     | QL=6 ST=2 TYP=1 |
|     | 1000  | TYKW | 5 S    | 0018.3     | 0018.4               | 0.5            | 3.0                                                       | 1.0  |     |                 |
|     | 1000  | TYKW | 45 C   | 0019.0     | 0019.6               | 1.0            | 21.0                                                      | 3.0  |     |                 |
|     | 3750  | TYKW | 21 GRF | 0055.0     | 0155.0               | 185.0          | 2.0                                                       | 1.0  |     |                 |
|     | 9400  | TYKW | 5 S    | 0123.0     | 0123.7               | 3.0            | 14.0                                                      | 3.0  |     |                 |
|     | 8800  | LEAR | 4 S/F  | 0123.3     | 0123.8               | 2.3            | 15.0                                                      |      |     | QL=6 ST=2 TYP=3 |
|     | 15400 | LEAR | 8 S    | 0123.5     | 0123.8               | .6             | 8.0                                                       |      |     | QL=6 ST=2 TYP=3 |
|     | 3750  | TYKW | 28 PRE | 0212.0     | 0219.0               | 7.0            | 2.0                                                       | 1.0  |     |                 |
|     | 3750  | TYKW | 45 C   | 0219.0     | 0221.0               | 5.0            | 9.0                                                       | 3.0  |     |                 |
|     | 9400  | TYKW | 5 S    | 0220.0     | 0222.0               | 10.0           | 2.0                                                       | 1.0  |     |                 |
|     | 245   | LEAR | 47 GB  | 0220.5     | 0220.8               | 1.1            | 83.0                                                      |      |     | QL=6 ST=2 TYP=5 |
|     | 2000  | TYKW | 5 S    | 0220.5     | 0221.1               | 2.0            | 1.5                                                       | 0.5  |     |                 |
|     | 410   | LEAR | 8 S    | 0220.6     | 0220.8               | .7             | 22.0                                                      |      |     | QL=6 ST=2 TYP=3 |
|     | 4995  | LEAR | 4 S/F  | 0220.6     | 0221.1               | 2.2            | 7.0                                                       |      |     | QL=6 ST=2 TYP=3 |
|     | 3750  | TYKW | 29 PBI | 0224.0     |                      | 10.0           | 2.5                                                       | 1.0  |     |                 |
|     | 3750  | TYKW | 28 PRE | 0247.0     | 0253.0               | 8.0            | 2.0                                                       | 1.0  |     |                 |
|     | 1000  | TYKW | 45 C   | 0254.0     | 0254.3               | 0.5            | 2.0                                                       | 0.5  |     |                 |
|     | 3750  | TYKW | 45 C   | 0255.0     | 0255.4               | 2.0            | 12.0                                                      | 7.0  |     |                 |
|     | 2000  | TYKW | 45 C   | 0255.0     | 0255.9               | 2.0            | 13.0                                                      | 5.0  |     |                 |
|     | 1000  | TYKW | 45 C   | 0255.0     | 0256.3               | 2.0            | 11.0                                                      | 1.5  |     |                 |
|     | 9400  | TYKW | 20 GRF | 0255.0     | 0256.5               | 85.0           | 5.0                                                       | 2.0  |     |                 |
|     | 4995  | LEAR | 8 S    | 0255.0     | 0255.5               | 1.8            | 9.0                                                       |      |     | QL=6 ST=2 TYP=3 |
|     | 2695  | LEAR | 8 S    | 0255.0     | 0255.5               | 2.0            | 13.0                                                      |      |     | QL=6 ST=2 TYP=3 |
|     | 1415  | LEAR | 4 S/F  | 0255.1     | 0256.0               | 2.2            | 9.0                                                       |      |     | QL=6 ST=2 TYP=3 |
|     | 8800  | LEAR | 4 S/F  | 0255.1     | 0256.6               | 2.2            | 10.0                                                      |      |     | QL=6 ST=2 TYP=3 |
|     | 15400 | LEAR | 4 S/F  | 0255.3     | 0256.6               | 2.5            | 8.0                                                       |      |     | QL=6 ST=2 TYP=3 |
|     | 3750  | TYKW | 30 PBI | 0257.0     |                      | 60.0           | 4.0                                                       | 2.0  |     |                 |
|     | 2000  | TYKW | 29 PBI | 0257.0     |                      | 50.0           | 1.5                                                       | 0.7  |     |                 |
|     | 3750  | TYKW | 5 S    | 0259.0     | 0303.7               | 20.0           | 4.0                                                       | 1.50 |     |                 |
|     | 3750  | TYKW | 45 C   | 0452.0     | 0456.7               | 13.0           | 6.0                                                       | 4.0  |     |                 |
|     | 2950  | GORK | 22 GRF | 0455.0     | 0648.0               | 127.0          | 3.3                                                       | 1.5  |     |                 |
|     | 8800  | ATHN | 20 GRF | 0458.1     | 0500.1               | 4.2            | 21.0                                                      |      |     | QL=5 ST=2 TYP=2 |
|     | 410   | LEAR | 8 S    | 0500.1     | 0500.3               | .7             | 20.0                                                      |      |     | QL=6 ST=2 TYP=3 |
|     | 245   | LEAR | 8 S    | 0502.8     | 0503.5               | 1.2            | 15.0                                                      |      |     | QL=6 ST=2 TYP=3 |
|     | 3750  | TYKW | 30 PBI | 0505.0     |                      | 140.0          | 4.0                                                       | 1.5  |     |                 |
|     | 9400  | TYKW | 5 S    | 0527.0     | 0529.0               | 17.0           | 3.0                                                       | 1.5  |     |                 |
|     | 9100  | GORK | 20 GRF | 0527.2     | 0529.8               | 12.2           | 6.0                                                       |      |     |                 |
|     | 3750  | TYKW | 45 C   | 0527.5     | 0528.9               | 10.0           | 4.0                                                       | 1.5  |     |                 |
|     | 200   | GORK | 4 S/F  | 0609.6E    | 0612.30              | 3.00           | 45.0                                                      |      |     |                 |
|     | 3750  | TYKW | 45 C   | 0611.8     | 0613.7               | 4.0            | 3.0                                                       | 1.0  |     |                 |
|     | 100   | GORK | 6 S    | 0612.0     | 0612.3               | 1.3            | 500.0                                                     |      |     |                 |
|     | 410   | LEAR | 47 GB  | 0612.1     | 0612.1               | .2             | 83.0                                                      |      |     | QL=6 ST=2 TYP=5 |
|     | 245   | LEAR | 47 GB  | 0612.1     | 0612.3               | .4             | 219.0                                                     |      |     | QL=6 ST=2 TYP=5 |
|     | 410   | LEAR | 8 S    | 0614.3     | 0614.6               | .7             | 41.0                                                      |      |     | QL=6 ST=2 TYP=3 |
|     | 245   | LEAR | 8 S    | 0615.0     | 0615.1               | 1.0            | 39.0                                                      |      |     | QL=6 ST=2 TYP=3 |
|     | 3750  | TYKW | 45 C   | 0647.0     | 0647.7               | 8.0            | 14.0                                                      | 3.0  |     |                 |
|     | 4995  | ATHN | 4 S/F  | 0647.5     | 0647.6               | 4.0            | 20.0                                                      |      |     | QL=6 ST=2 TYP=3 |
|     | 9100  | GORK | 22 GRF | 0647.5     | 0647.7               | 9.3            | 8.0                                                       |      |     |                 |
|     | 6100  | KISV | 2 S/F  | 0647.5     | 0647.7               | 2.5            | 11.0                                                      |      |     |                 |
|     | 4995  | LEAR | 8 S    | 0647.6     | 0647.8               | .4             | 13.0                                                      |      |     | QL=6 ST=2 TYP=3 |
|     | 3750  | TYKW | 29 PBI | 0655.0     |                      | 15.0           | 1.5                                                       | 0.7  |     |                 |
|     | 200   | GORK | 46 C   | 0655.3     | 0657.0               | 12.4           | 140.0                                                     |      |     |                 |
|     | 200   | GORK |        | 0655.3     | 0704.7               |                | 150.0                                                     |      |     |                 |
|     | 200   | HIRA | 46 C   | 0655.5     | 0656.7               | 10.3           | 140.0                                                     | 21.0 |     | MR              |
|     | 410   | LEAR | 4 S/F  | 0655.5     | 0701.5               | 9.8            | 28.0                                                      |      |     | QL=6 ST=2 TYP=3 |
|     | 200   | HIRA |        | 0655.5     | 0704.5               |                | 130.0                                                     |      |     | MR              |
|     | 245   | LEAR | 47 GB  | 0656.1     | 0703.5               | 9.9            | 96.0                                                      |      |     | QL=6 ST=2 TYP=5 |
|     | 650   | GORK | 3 S    | 0701.5     | 0701.8               | .9             | 36.0                                                      |      |     |                 |
|     | 100   | GORK | 8 S    | 0702.7     | 0703.0               | .5             | 150.0                                                     |      |     |                 |

# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

5  
Apr 84

APRIL 1984

| Day | Freq | Sta  | Type   | Start<br>(UT) | Time of<br>Maximum<br>(UT) | Duration<br>(Min) | Flux Density<br>Peak<br>(10 <sup>-22</sup> W/m <sup>2</sup> Hz) | Meas<br>(2 Hz) | Int | Remarks         |
|-----|------|------|--------|---------------|----------------------------|-------------------|-----------------------------------------------------------------|----------------|-----|-----------------|
| 01  | 410  | LEAR | 4 S/F  | 0850.1        | 0850.8                     | 2.4               | 45.0                                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 245  | LEAR | 8 S    | 0850.3        | 0850.8                     | .7                | 20.0                                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 650  | GORK | 20 GRF | 0911.00       | 0937.9                     | 91.00             | 7.0                                                             | 3.5            |     |                 |
|     | 29   | UPIC | 1 S    | 1038.2        | 1038.5                     | .6                |                                                                 |                |     |                 |
|     | 33   | UPIC | 1 S    | 1038.3        | 1038.5                     | .7                |                                                                 |                |     |                 |
|     | 410  | PALE | 8 S    | 1834.8        | 1835.0                     | .3                | 24.0                                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 3750 | TYKW | 21 GRF | 2130.0        | 2225.0                     | 150.0             | 10.0                                                            | 4.0            |     |                 |
|     | 2800 | OTTA | 21 GRF | 2135.0        | 2220.0                     | 145.0             | 7.0                                                             | 3.5            |     |                 |
|     | 2800 | OTTA | 1 S    | 2138.0        | 2139.5                     | 3.0               | 3.6                                                             | 1.2            |     |                 |
|     | 1000 | TYKW | 45 C   | 2139.5        | 2140.5                     | 2.5               | 91.0                                                            | 25.0           |     |                 |
|     | 1415 | SGMR | 47 GB  | 2153.8        | 2154.5                     | 12.5              | 25.0                                                            |                |     | QL=4 ST=2 TYP=5 |
|     | 1000 | TYKW | 45 C   | 2153.8        | 2202.9                     | 16.0              | 65.0                                                            | 18.0           |     |                 |
|     | 500  | HIRA | 45 C   | 2154.0        | 2203.3                     | 11.6              | 12.0                                                            | 6.0            |     | NR              |
|     | 1415 | PALE | 47 GB  | 2154.1        | 2158.5                     | 11.2              | 62.0                                                            |                |     | QL=6 ST=2 TYP=5 |
|     | 2000 | TYKW | 45 C   | 2157.0        | 2201.9                     | 11.0              | 43.0                                                            | 13.0           |     |                 |
|     | 2800 | OTTA | 3 S    | 2157.0        | 2202.5                     | 15.0              | 46.0                                                            | 11.4           |     |                 |
|     | 9400 | TYKW | 5 S    | 2157.0        | 2203.2                     | 12.0              | 22.0                                                            | 8.0            |     |                 |
|     | 3750 | TYKW | 45 C   | 2157.0        | 2203.3                     | 13.0              | 44.0                                                            | 14.0           |     |                 |
|     | 610  | PALE | 47 GB  | 2157.3        | 2158.5                     | 7.5               | 58.0                                                            |                |     | QL=6 ST=2 TYP=5 |
|     | 610  | SGMR | 47 GB  | 2157.3        | 2158.5                     | 7.5               | 50.0                                                            |                |     | QL=4 ST=2 TYP=5 |
|     | 245  | PALE | 47 GB  | 2159.3        | 2159.5                     | .5                | 110.0                                                           |                |     | QL=6 ST=2 TYP=5 |
|     | 2695 | PALE | 47 GB  | 2200.6        | 2202.6                     | 6.7               | 50.0                                                            |                |     | QL=6 ST=2 TYP=5 |
|     | 2695 | SGMR | 4 S/F  | 2201.0        | 2202.6                     | 5.5               | 41.0                                                            |                |     | QL=4 ST=2 TYP=3 |
|     | 4995 | PALE | 4 S/F  | 2201.1        | 2202.8                     | 6.5               | 35.0                                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 4995 | SGMR | 4 S/F  | 2201.3        | 2202.6                     | 3.5               | 28.0                                                            |                |     | QL=4 ST=2 TYP=3 |
|     | 8800 | PALE | 4 S/F  | 2201.8        | 2202.8                     | 5.3               | 19.0                                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 410  | PALE | 8 S    | 2202.1        | 2202.6                     | .5                | 13.0                                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 8800 | SGMR | 8 S    | 2202.3        | 2202.6                     | .8                | 17.0                                                            |                |     | QL=4 ST=2 TYP=3 |
|     | 410  | SGMR | 8 S    | 2203.3        | 2203.6                     | .3                | 13.0                                                            |                |     | QL=4 ST=2 TYP=3 |
|     | 2000 | TYKW | 29 FBI | 2208.0        |                            | 110.0             | 5.0                                                             | 2.0            |     |                 |
|     | 9400 | TYKW | 29 FBI | 2209.0        |                            | 69.0              | 7.0                                                             | 3.0            |     |                 |
|     | 3750 | TYKW | 29 FBI | 2210.0        |                            | 10.0              | 3.0                                                             | 1.5            |     |                 |
| 02  | 200  | GORK | 44 NS  | 0411.0E       |                            | 472.00            |                                                                 | 150.0          |     |                 |
|     | 100  | GORK | 44 NS  | 0415.0E       |                            | 465.00            |                                                                 | 120.0          |     |                 |
|     | 536  | ONDR | 44 NS  | 0558.0E       |                            | 492.00            | 13.0                                                            |                |     |                 |
|     | 204  | IZMI | 44 NS  | 0600.0E       |                            | 360.00            | 200.0                                                           |                |     |                 |
|     | 260  | ONDR | 44 NS  | 0600.0E       |                            | 480.00            | 10.40                                                           |                |     |                 |
|     | 245  | SGMR | 44 NS  | 1044.0E       | 1600.6                     |                   | 610.0                                                           |                |     | QL=6 ST=3 TYP=1 |
|     | 127  | TORN | 44 NS  | 1240.0E       | 1333.1                     | 140.00            | 400.0                                                           | 140.0          |     | V=1             |
|     | 410  | SGMR | 43 NS  | 1300.0        | 1630.8                     | 589.00            | 84.0                                                            |                |     | QL=6 ST=2 TYP=1 |
|     | 610  | SGMR | 43 NS  | 1540.6        | 1958.5                     | 428.40            | 26.0                                                            |                |     | QL=5 ST=2 TYP=1 |
|     | 100  | HIRA | 44 NS  | 2021.0E       | 0540.0                     | 760.00            | 1300.0                                                          | 480.0          |     |                 |
|     | 200  | HIRA | 44 NS  | 2021.0E       | 0642.0                     | 760.00            | 590.0                                                           | 250.0          |     | SR              |
|     | 208  | VORO | 44 NS  | 2200.0E       |                            | 360.00            |                                                                 | 32.0           |     |                 |
|     | 245  | LEAR | 43 NS  | 2249.0        | 0014.1                     | 676.00            | 660.0                                                           |                |     | QL=6 ST=2 TYP=1 |
|     | 610  | LEAR | 43 NS  | 2249.0        | 0544.0                     | 676.00            | 160.0                                                           |                |     | QL=6 ST=2 TYP=1 |
|     | 410  | LEAR | 43 NS  | 2249.0        | 0552.8                     | 676.00            | 119.0                                                           |                |     | QL=6 ST=2 TYP=1 |
|     | 500  | HIRA | 43 NS  | 2327.0        | 0552.0                     | 570.00            | 80.0                                                            | 20.0           |     | SR              |
|     | 3750 | TYKW | 5 S    | 0032.0        | 0032.6                     | 2.0               | 9.0                                                             | 2.0            |     |                 |
|     | 2695 | PENT | 1 S    | 0032.2        | 0032.5                     | 1.2               | 4.2                                                             | 1.4            |     |                 |
|     | 2000 | TYKW | 5 S    | 0032.3        | 0032.7                     | 1.0               | 1.5                                                             | 0.5            |     |                 |
|     | 9400 | TYKW | 5 S    | 0032.4        | 0032.6                     | 0.8               | 8.0                                                             | 3.0            |     |                 |
|     | 1000 | TYKW | 5 S    | 0032.4        | 0032.6                     | 0.6               | 1.0                                                             | 0.3            |     |                 |
|     | 4995 | LEAR | 8 S    | 0032.6        | 0032.8                     | .5                | 22.0                                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 610  | LEAR | 8 S    | 0032.6        | 0032.8                     | .2                | 13.0                                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 8800 | LEAR | 8 S    | 0032.6        | 0032.8                     | .2                | 16.0                                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 3750 | TYKW | 29 FBI | 0034.0        |                            | 15.0              | 1.5                                                             | 0.7            |     |                 |
|     | 2950 | GORK | 3 S    | 0426.8        | 0427.3                     | 1.2               | 18.4                                                            | 9.0            |     |                 |
|     | 2000 | TYKW | 20 GRF | 0513.0        | 0528.0                     | 103.0             | 4.0                                                             | 2.0            |     |                 |
|     | 3750 | TYKW | 20 GRF | 0513.0        | 0528.0                     | 100.0             | 5.0                                                             | 2.0            |     |                 |
|     | 9400 | TYKW | 20 GRF | 0515.0        | 0529.0                     | 65.0              | 6.0                                                             | 3.0            |     |                 |
|     | 8800 | ATHN | 4 S/F  | 0555.6        | 0558.6                     | 4.9               | 39.0                                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 410  | LEAR | 47 GB  | 0613.3        | 0614.3                     | 1.7               | 52.0                                                            |                |     | QL=6 ST=2 TYP=5 |
|     | 245  | LEAR | 49 GB  | 0614.1        | 0614.3                     | .5                | 530.0                                                           |                |     | QL=6 ST=2 TYP=6 |
|     | 500  | HIRA | 45 C   | 0637.0        | 0638.0                     | 34.0              | 16.0                                                            | 6.0            |     | NR              |
|     | 100  | GORK | 27 RF  | 0831.8        | 0839.4                     | 15.3              | 480.0                                                           |                |     |                 |
|     | 100  | GORK |        | 0831.8        | 0845.4                     |                   | 400.0                                                           |                |     |                 |
|     | 6100 | KISV | 28 PRE | 0920.0        | 0950.0                     | 30.5              | 8.0                                                             |                |     |                 |
|     | 33   | UPIC | 45 C   | 0926.0        | 0926.1                     | .6                |                                                                 |                |     |                 |
|     | 29   | UPIC | 45 C   | 0926.0        | 0926.3                     | .7                |                                                                 |                |     |                 |



6  
Apr 84

# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

APRIL 1984

| Day | Freq Sta   | Type   | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density                                 |             | Int | Remarks         |
|-----|------------|--------|------------|----------------------|----------------|----------------------------------------------|-------------|-----|-----------------|
|     |            |        |            |                      |                | Peak (10 <sup>-22</sup> W/m <sup>2</sup> Hz) | Mean (2 Hz) |     |                 |
| 02  | 9100 GORK  | 21 GRF | 0940.4     | 0957.0               | 73.0           | 19.0                                         |             |     |                 |
|     | 3100 CRIM  | 3 S    | 0943.0     | 0954.0               | 45.0           | 30.0                                         | 10.0        |     |                 |
|     | 2950 GORK  | 21 GRF | 0948.8     | 0955.0               | 44.0           | 8.4                                          | 4.0         |     |                 |
|     | 3200 BERN  | 3 S    | 0950.0U    | 0955.5U              | 30.0U          | 55.0U                                        |             |     | ONLY PAPER RE   |
|     | 5200 BERN  | 3 S    | 0950.0U    | 0953.5U              | 30.0U          | 115.0U                                       |             |     | ONLY PAPER RE   |
|     | 6100 KISV  | 4 S/F  | 0950.3     | 0953.9               | 8.5            | 90.0                                         |             |     |                 |
|     | 4995 ATHN  | 4 S/F  | 0952.0     | 0954.0               | 3.6            | 49.0                                         |             |     | QL=6 ST=2 TYP=3 |
|     | 2695 ATHN  | 4 S/F  | 0952.0     | 0954.0               | 3.6            | 17.0                                         |             |     | QL=6 ST=2 TYP=3 |
|     | 8800 ATHN  | 47 GB  | 0952.5     | 0954.0               | 3.0            | 82.0                                         |             |     | QL=6 ST=2 TYP=5 |
|     | 9100 GORK  | 3 S    | 0952.8     | 0953.6               | 2.8            | 60.0                                         | 24.0        |     |                 |
|     | 2950 GORK  | 3 S    | 0953.1     | 0954.0               | 2.0            | 16.7                                         | 8.0         |     |                 |
|     | 3000 IZMI  | 5 S    | 0953.4     | 0954.0               | 2.0            | 30.0                                         | 15.0        |     |                 |
|     | 6100 KISV  | 29 FBI | 0958.8     | 0959.0               | 25.0           | 15.0                                         |             |     |                 |
|     | 234 POTS   | 42 SER | 1039.5     | 1044.4               | 5.5            | 825.0                                        | 3.0         |     |                 |
|     | 3100 CRIM  | 1 S    | 1145.5     | 1150.0               | 8.0            | 6.0                                          | 2.0         |     |                 |
|     | 6100 KISV  | 2 S/F  | 1148.9     | 1149.9               | 2.0            | 5.0                                          |             |     |                 |
|     | 2950 GORK  | 1 S    | 1149.6     | 1149.8               | 1.1            | 3.4                                          | 1.7         |     |                 |
|     | 9100 GORK  | 1 S    | 1149.7     | 1149.9               | .4             | 10.0                                         | 5.0         |     |                 |
|     | 410 SGMR   | 8 S    | 1226.6     | 1226.6               | .5             | 22.0                                         |             |     | QL=6 ST=2 TYP=3 |
|     | 610 SGMR   | 8 S    | 1226.6     | 1226.6               | .5             | 34.0                                         |             |     | QL=6 ST=2 TYP=3 |
|     | 410 SGMR   | 8 S    | 1324.1     | 1324.1               | .2             | 17.0                                         |             |     |                 |
|     | 2800 OTTA  | 20 GRF | 1530.0     | 1710.0               | 170.0          | 7.0                                          | 3.5         |     |                 |
|     | 33 UPIC    | 46 C   | 1559.5     | 1601.0               | 2.5            |                                              |             |     |                 |
|     | 29 UPIC    | 46 C   | 1559.5     | 1601.2               | 2.5            |                                              |             |     |                 |
|     | 33 UPIC    | 45 C   | 1655.0     | 1655.1               | 3.6            |                                              |             |     |                 |
|     | 29 UPIC    | 45 C   | 1655.0     | 1655.4               | 3.6            |                                              |             |     |                 |
|     | 410 PALE   | 8 S    | 1744.1     | 1744.3               | .5             | 46.0                                         |             |     | QL=6 ST=2 TYP=3 |
|     | 3750 TYKW  | 5 S    | 2213.0     | 2215.0               | 15.0           | 2.0                                          | 0.7         |     |                 |
|     | 3750 TYKW  | 5 S    | 2242.0     | 2243.8               | 7.0            | 2.0                                          | 0.7         |     |                 |
|     | 3750 TYKW  | 20 GRF | 2258.0     | 2312.0               | 50.0           | 1.5                                          | 0.7         |     |                 |
|     | 15400 LEAR | 8 S    | 2347.8     | 2348.5               | 1.3            | 29.0                                         |             |     | QL=6 ST=2 TYP=3 |
| 03  | 200 GORK   | 44 NS  | 0337.0E    |                      | 503.00         |                                              | 160.0       |     |                 |
|     | 100 GORK   | 44 NS  | 0342.0E    |                      | 498.00         |                                              | 250.0       |     |                 |
|     | 536 ONDR   | 44 NS  | 0550.0E    |                      | 63.00          | 64.0                                         |             |     |                 |
|     | 260 ONDR   | 44 NS  | 0550.0E    |                      | 502.00         | 83.00                                        |             |     |                 |
|     | 204 IZMI   | 44 NS  | 0600.0E    |                      | 360.00         | 200.0                                        |             |     |                 |
|     | 127 TORN   | 44 NS  | 0620.0E    | 0838.5               | 520.00         | 2100.0                                       | 130.0       |     | V=1             |
|     | 430 KRAK   | 44 NS  | 0630.0E    | 0910.5               | 270.00         | 17.0                                         | 3.0         |     |                 |
|     | 430 KRAK   | 44 NS  | 0635.0E    | 0846.0               | 400.00         | 38.0                                         | 5.0         |     |                 |
|     | 33 UPIC    | 43 NS  | 0637.3     |                      |                | 622.70                                       |             |     |                 |
|     | 29 UPIC    | 44 NS  | 0800.0E    |                      | 540.00         |                                              |             |     |                 |
|     | 245 SGMR   | 43 NS  | 1043.0     | 1217.3               | 727.00         | 830.0                                        |             |     | QL=6 ST=2 TYP=1 |
|     | 410 SGMR   | 43 NS  | 1135.0     | 1137.3               |                | 16.0                                         |             |     | QL=6 ST=1 TYP=1 |
|     | 410 SGMR   | 43 NS  | 1138.0     | 1745.8               | 672.00         | 130.0                                        |             |     | QL=6 ST=2 TYP=1 |
|     | 610 SGMR   | 43 NS  | 1146.6     | 1745.6               | 663.40         | 130.0                                        |             |     | QL=6 ST=2 TYP=1 |
|     | 245 PALE   | 43 NS  | 1655.0     | 0107.8               | 668.00         | 850.0                                        |             |     | QL=6 ST=2 TYP=1 |
|     | 200 HIRA   | 44 NS  | 2018.0E    | 0155.0               | 760.00         | 970.0                                        | 170.0       |     | SR              |
|     | 100 HIRA   | 44 NS  | 2018.0E    | 0300.0               | 760.00         | 1200.0                                       | 640.0       |     |                 |
|     | 208 VORO   | 44 NS  | 2200.0E    |                      | 360.00         |                                              | 300.0       |     |                 |
|     | 410 LEAR   | 43 NS  | 2249.0     | 0036.1               | 675.00         | 100.0                                        |             |     | QL=6 ST=2 TYP=1 |
|     | 610 LEAR   | 43 NS  | 2249.0     | 0043.3               | 675.00         | 82.0                                         |             |     | QL=6 ST=2 TYP=1 |
|     | 245 LEAR   | 43 NS  | 2249.0     | 0108.0               | 675.00         | 670.0                                        |             |     | QL=6 ST=2 TYP=1 |
|     | 410 PALE   | 44 NS  | 2345.0E    | 0046.6               |                | 33.0                                         |             |     | QL=6 ST=3 TYP=1 |
|     | 610 PALE   | 44 NS  | 2345.0E    | 0047.1               |                | 26.0                                         |             |     | QL=6 ST=3 TYP=1 |
|     | 2840 PEKG  | 3 S    | 0105.0     | 0105.2               | 2.0            | 17.8                                         | 6.5         |     |                 |
|     | 3750 TYKW  | 21 GRF | 0107.0     | 0141.0               | 95.0           | 3.0                                          | 1.5         |     |                 |
|     | 2902 YUNN  | 5 S    | 0107.8     | 0108.0               | 2.8            | 22.0                                         |             |     |                 |
|     | 2695 PENT  | 3 S    | 0108.0     | 0108.1               | 1.5            | 19.6                                         | 6.6         |     |                 |
|     | 9400 TYKW  | 5 S    | 0108.0     | 0108.2               | 1.0            | 9.0                                          | 2.0         |     |                 |
|     | 2000 TYKW  | 5 S    | 0108.0     | 0108.3               | 2.0            | 11.0                                         | 3.0         |     |                 |
|     | 3750 TYKW  | 5 S    | 0108.0     | 0108.3               | 2.0            | 28.0                                         | 5.0         |     |                 |
|     | 1000 TYKW  | 5 S    | 0108.0     | 0108.4               | 1.0            | 7.0                                          | 0.3         |     |                 |
|     | 2695 LEAR  | 8 S    | 0108.0     | 0108.3               | 1.8            | 25.0                                         |             |     | QL=6 ST=2 TYP=3 |
|     | 4995 LEAR  | 8 S    | 0108.0     | 0108.3               | 1.0            | 30.0                                         |             |     | QL=6 ST=2 TYP=3 |
|     | 8800 LEAR  | 8 S    | 0108.0     | 0108.3               | .8             | 11.0                                         |             |     | QL=6 ST=2 TYP=3 |
|     | 4995 PALE  | 8 S    | 0108.1     | 0108.3               | .5             | 26.0                                         |             |     | QL=6 ST=2 TYP=3 |
|     | 2695 PALE  | 8 S    | 0108.1     | 0108.3               | .5             | 25.0                                         |             |     | QL=6 ST=2 TYP=3 |
|     | 610 PALE   | 8 S    | 0209.8     | 0210.1               | .8             | 20.0                                         |             |     | QL=6 ST=2 TYP=3 |
|     | 410 PALE   | 8 S    | 0210.0     | 0210.1               | .5             | 35.0                                         |             |     | QL=6 ST=2 TYP=3 |
|     | 2840 PEKG  | 3 S    | 0254.0     | 0254.8               | 3.0            | 18.8                                         | 3.0         |     |                 |

# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

7  
Apr 84

APRIL 1984

| Day | Freq | Sta  | Type   | Start<br>(UT) | Time of<br>Maximum<br>(UT) | Duration<br>(Min) | Flux Density<br>Peak<br>(10 <sup>-22</sup> W/m <sup>2</sup> Hz) | Mean<br>(2 Hz) | Int | Remarks         |
|-----|------|------|--------|---------------|----------------------------|-------------------|-----------------------------------------------------------------|----------------|-----|-----------------|
| 03  | 3750 | TYKW | 45 C   | 0258.4        | 0258.7                     | 1.6D              | 15.0                                                            | 6.00           |     |                 |
|     | 1000 | TYKW | 45 C   | 0258.4        | 0258.7                     | 1.5               | 15.0                                                            | 4.0            |     |                 |
|     | 9400 | TYKW | 5 S    | 0258.4        | 0258.8                     | 1.0               | 3.0                                                             | 1.0            |     |                 |
|     | 2000 | TYKW | 45 C   | 0258.4        | 0258.9                     | 2.0               | 14.0                                                            | 4.0            |     |                 |
|     | 2695 | PALE | 8 S    | 0258.6        | 0258.8                     | .4                | 20.0                                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 650  | GORK | 22 GRF | 0409.5U       | 0547.5                     | 267.3U            | 100.0                                                           | 50.0           |     |                 |
|     | 2950 | GORK | 21 GRF | 0410.4        | 0521.0                     | 148.0             | 4.2                                                             | 2.0            |     |                 |
|     | 950  | GORK | 22 GRF | 0428.8        | 0534.4                     | 125.8             | 17.0                                                            |                |     |                 |
|     | 2840 | PEKG | 3 S    | 0445.0        | 0446.2                     | 4.0               | 17.2                                                            | 4.7            |     |                 |
|     | 2000 | TYKW | 5 S    | 0445.5        | 0446.2                     | 2.5               | 8.0                                                             | 3.0            |     |                 |
|     | 100  | GORK | 4 S/F  | 0445.8        | 0446.2                     | 1.1               | 1900.0                                                          |                |     |                 |
|     | 3750 | TYKW | 5 S    | 0445.8        | 0446.2                     | 3.0               | 10.0                                                            | 2.0            |     |                 |
|     | 2950 | GORK | 1 S    | 0445.8        | 0446.2                     | 1.2               | 10.0                                                            |                |     |                 |
|     | 9100 | GORK | 1 S    | 0445.9        | 0446.2                     | .7                | 5.3                                                             | 2.5            |     |                 |
|     | 9400 | TYKW | 5 S    | 0446.0        | 0446.2                     | 1.0               | 4.0                                                             | 1.5            |     |                 |
|     | 2695 | LEAR | 8 S    | 0446.1        | 0446.3                     | .4                | 13.0                                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 3750 | TYKW | 20 GRF | 0511.0        | 0520.0                     | 55.0              | 2.0                                                             | 1.0            |     |                 |
|     | 6100 | KISV | 22 GRF | 0611.0        | 0625.5                     | 30.0U             | 7.0                                                             |                |     |                 |
|     | 3750 | TYKW | 20 GRF | 0612.0        | 0623.0                     | 40.0              | 4.0                                                             | 1.5            |     |                 |
|     | 9100 | GORK | 20 GRF | 0612.0        | 0622.3                     | 44.0              | 7.0                                                             | 3.6            |     |                 |
|     | 6100 | KISV | 1 S    | 0854.9        | 0855.9                     | 2.5               | 4.0                                                             |                |     |                 |
|     | 234  | POTS | 4 S/F  | 0855.6        | 0856.1                     | .8                | 1600.0                                                          | 200.0          |     |                 |
|     | 650  | GORK |        | 1027.6        | 1028.8                     |                   | 6.5                                                             |                |     |                 |
|     | 650  | GORK | 22 GRF | 1029.1        | 1144.5                     | 120.0D            | 19.0                                                            | 9.0            |     |                 |
|     | 550  | GORK | 22 GRF | 1123.0        | 1144.5                     | 36.0D             | 5.0                                                             |                |     |                 |
|     | 410  | SGMR | 4 S/F  | 1137.1        | 1139.5                     | 2.9               | 27.0                                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 245  | SGMR | 47 GB  | 1138.3        | 1138.5                     | 1.2               | 200.0                                                           |                |     | QL=6 ST=2 TYP=5 |
|     | 610  | SGMR | 8 S    | 1139.3        | 1139.5                     | .5                | 19.0                                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 2950 | GORK | 20 GRF | 1142.0        | 1228.0                     | 48.0D             | 5.0                                                             | 2.5            |     |                 |
|     | 9100 | GORK | 21 GRF | 1159.0        | 1207.2                     | 30.0D             | 10.0                                                            | 5.0            |     |                 |
|     | 2800 | OTTA | 21 GRF | 1205.0        | 1230.0                     | 55.0              | 3.6                                                             | 1.8            |     |                 |
|     | 6100 | KISV | 2 S/F  | 1205.5        | 1206.4                     | 3.0               | 8.0                                                             |                |     |                 |
|     | 9100 | GORK | 1 S    | 1205.9        | 1206.2                     | 1.3               | 8.6                                                             | 4.0            |     |                 |
|     | 8800 | SGMR | 8 S    | 1206.0        | 1206.6                     | 1.0               | 19.0                                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 410  | SGMR | 47 GB  | 1212.3        | 1212.5                     | .5                | 95.0                                                            |                |     | QL=6 ST=2 TYP=5 |
|     | 1470 | POTS | 40 F   | 1225.0        | 1227.1                     | 5.0               | 5.0                                                             |                |     |                 |
|     | 2800 | OTTA | 1 S    | 1225.8        | 1227.0                     | 2.2               | 3.4                                                             | 1.7            |     |                 |
|     | 3000 | POTS | 40 F   | 1226.0        | 1227.0                     | 3.0               | 6.0                                                             |                |     |                 |
|     | 808  | ONDR | 46 C   | 1226.0        | 1226.2                     | 2.0               | 36.0                                                            |                |     |                 |
|     | 2950 | GORK | 1 S    | 1226.4        | 1230.0                     | 3.6U              | 3.4                                                             | 1.7            |     |                 |
|     | 234  | POTS | 42 SER | 1300.5        | 1306.6                     | 7.7               | 1200.0                                                          | 3.0            |     |                 |
|     | 245  | SGMR | 49 GB  | 1306.6        | 1306.8                     | 2.4               | 500.0                                                           |                |     | QL=6 ST=2 TYP=6 |
|     | 113  | POTS | 4 S/F  | 1316.5        | 1316.6                     | .7                | 200.0                                                           | 40.0           |     |                 |
|     | 245  | SGMR | 49 GB  | 1512.1        | 1512.3                     | 3.2               | 1100.0                                                          |                |     | QL=6 ST=3 TYP=6 |
|     | 2800 | OTTA | 21 GRF | 1550.0        | 1635.0                     | 90.0              | 4.6                                                             | 2.3            |     |                 |
|     | 2800 | OTTA | 1 S    | 1606.0        | 1606.8                     | 1.5               | 2.8                                                             | 1.4            |     |                 |
|     | 2800 | OTTA | 1 S    | 1608.3        | 1609.8                     | 10.0              | 5.0                                                             | 2.0            |     |                 |
|     | 2800 | OTTA | 20 GRF | 1837.0        | 1940.0                     | 40.0              | 2.0                                                             | 1.5            |     |                 |
|     | 2800 | OTTA | 22 GRF | 2050.0        | 2355.0                     | 280.0             | 5.4                                                             | 3.0            |     |                 |
|     | 3750 | TYKW | 20 GRF | 2340.0        | 2357.0                     | 90.0              | 2.0                                                             | 1.0            |     |                 |
| 04  | 200  | GORK | 44 NS  | 0334.0E       |                            | 514.0D            |                                                                 | 100.0          |     |                 |
|     | 100  | GORK | 44 NS  | 0337.0E       |                            | 514.0D            |                                                                 | 400.0          |     |                 |
|     | 33   | UPIC | 43 NS  | 0559.5        |                            | 592.5             |                                                                 |                |     |                 |
|     | 204  | IZMI | 4 NS   | 0600.0E       |                            | 360.0D            | 100.0                                                           |                |     |                 |
|     | 29   | UPIC | 43 NS  | 0611.4        |                            | 581.1             |                                                                 |                |     |                 |
|     | 127  | TORN | 44 NS  | 0620.0E       | 0835.0                     | 520.0D            | 730.0                                                           | 40.0           |     | V=1             |
|     | 260  | ONDR | 44 NS  | 0620.0E       |                            | 483.0D            | 134.0D                                                          |                |     |                 |
|     | 245  | SGMR | 43 NS  | 1041.0        | 1838.3                     | 731.0D            | 840.0                                                           |                |     | QL=6 ST=2 TYP=1 |
|     | 410  | SGMR | 43 NS  | 1304.1        | 1637.0                     | 587.9D            | 130.0                                                           |                |     | QL=6 ST=2 TYP=1 |
|     | 610  | SGMR | 43 NS  | 1407.0        | 1838.8                     | 525.0D            | 119.0                                                           |                |     | QL=6 ST=2 TYP=1 |
|     | 410  | PALE | 43 NS  | 1645.0        | 2106.5                     | 675.0D            | 110.0                                                           |                |     | QL=6 ST=2 TYP=1 |
|     | 245  | PALE | 43 NS  | 1645.0        | 2136.5                     | 675.0D            | 710.0                                                           |                |     | QL=6 ST=2 TYP=1 |
|     | 100  | HIRA | 44 NS  | 2017.0E       | 0720.0                     | 760.0D            | 1300.0                                                          | 350.0          |     |                 |
|     | 200  | HIRA | 44 NS  | 2017.0E       | 0817.0                     | 760.0D            | 500.0                                                           | 100.0          |     | SR              |
|     | 245  | LEAR | 44 NS  | 2249.0E       | 0830.3                     |                   | 900.0                                                           |                |     | QL=6 ST=3 TYP=1 |
|     | 500  | HIRA | 27 RF  | 0010.0        | 0122.9                     | 230.0             | 100.0                                                           | 40.0           |     | SR              |
|     | 610  | PALE | 8 S    | 0015.6        | 0015.8                     | .4                | 23.0                                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 410  | PALE | 8 S    | 0019.5        | 0020.0                     | .8                | 49.0                                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 410  | PALE | 47 GB  | 0021.6        | 0021.8                     | .5                | 68.0                                                            |                |     | QL=6 ST=2 TYP=5 |
|     | 610  | PALE | 8 S    | 0028.6        | 0028.8                     | .4                | 31.0                                                            |                |     | QL=6 ST=2 TYP=3 |

8  
Apr 84

# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

APRIL 1984

| Day | Freq  | Sta  | Type   | Start<br>(UT) | Time of<br>Maximum<br>(UT) | Duration<br>(Min) | Flux Density<br>Peak<br>(10 <sup>-22</sup> W/m <sup>2</sup> Hz) | Mean  | Int | Remarks         |
|-----|-------|------|--------|---------------|----------------------------|-------------------|-----------------------------------------------------------------|-------|-----|-----------------|
| 04  | 610   | PALE | 4 S/F  | 0034.5        | 0037.0                     | 5.1               | 42.0                                                            |       |     | QL=6 ST=2 TYP=3 |
|     | 410   | PALE | 47 GB  | 0034.6        | 0036.1                     | 5.0               | 91.0                                                            |       |     | QL=6 ST=2 TYP=5 |
|     | 410   | PALE | 47 GB  | 0042.3        | 0043.5                     | 1.5               | 62.0                                                            |       |     | QL=6 ST=2 TYP=5 |
|     | 610   | PALE | 8 S    | 0043.1        | 0043.3                     | 2.0               | 42.0                                                            |       |     | QL=6 ST=2 TYP=3 |
|     | 410   | PALE | 47 GB  | 0047.3        | 0048.8                     | 2.7               | 85.0                                                            |       |     | QL=6 ST=2 TYP=5 |
|     | 410   | PALE | 47 GB  | 0051.8        | 0052.3                     | 3.0               | 61.0                                                            |       |     | QL=6 ST=2 TYP=5 |
|     | 610   | PALE | 8 S    | 0053.0        | 0053.1                     | .3                | 38.0                                                            |       |     | QL=6 ST=2 TYP=3 |
|     | 15400 | LEAR | 8 S    | 0058.1        | 0059.6                     | 1.5               | 13.0                                                            |       |     | QL=6 ST=2 TYP=3 |
|     | 245   | PALE | 49 GB  | 0107.8        | 0107.8                     | 9.5               | 960.0                                                           |       |     | QL=6 ST=2 TYP=6 |
|     | 410   | PALE | 47 GB  | 0108.5        | 0109.1                     | 4.3               | 50.0                                                            |       |     | QL=6 ST=2 TYP=5 |
|     | 410   | PALE | 47 GB  | 0138.6        | 0138.6                     | .4                | 390.0                                                           |       |     | QL=6 ST=2 TYP=5 |
|     | 2000  | TYKW | 20 GRF | 0150.0        | 0230.0                     | 160.0             | 3.0                                                             | 1.5   |     |                 |
|     | 3750  | TYKW | 21 GRF | 0150.0        | 0230.0                     | 90.0              | 4.0                                                             | 2.0   |     |                 |
|     | 9400  | TYKW | 21 GRF | 0155.0        | 0220.0                     | 110.0             | 4.0                                                             | 2.0   |     |                 |
|     | 3750  | TYKW | 5 S    | 0245.0        | 0250.0                     | 25.0              | 1.5                                                             | 0.7   |     |                 |
|     | 9400  | TYKW | 5 S    | 0248.0        | 0248.6                     | 3.0               | 4.0                                                             | 2.0   |     |                 |
|     | 9400  | TYKW | 29 FBI | 0251.0        |                            | 25.0              | 2.0                                                             | 1.0   |     |                 |
|     | 950   | GORK | 22 GRF | 0337.0        | 0339.40                    | 164.0             | 28.0                                                            |       |     |                 |
|     | 650   | GORK | 22 GRF | 0400.00E      | 0721.4                     | 318.00            | 13.0                                                            | 6.0   |     |                 |
|     | 3100  | CRIM | 1 S    | 0517.0        | 0518.5                     | 6.0               | 4.0                                                             | 1.0   |     |                 |
|     | 3750  | TYKW | 45 C   | 0517.5        | 0519.3                     | 7.0               | 6.0                                                             | 1.5   |     |                 |
|     | 3750  | TYKW | 5 S    | 0554.0        | 0556.6                     | 14.0              | 4.0                                                             | 1.0   |     |                 |
|     | 3100  | CRIM | 3 S    | 0606.0        | 0606.8                     | 3.0               | 1.0                                                             | 0.5   |     |                 |
|     | 100   | GORK | 46 C   | 0611.0        | 0611.2                     | 1.9               | 21600.0                                                         |       |     |                 |
|     | 100   | GORK |        | 0611.0        | 0612.6                     |                   | 16900.0                                                         |       |     |                 |
|     | 2000  | TYKW | 5 S    | 0634.0        | 0637.0                     | 10.0              | 2.0                                                             | 0.7   |     |                 |
|     | 3750  | TYKW | 45 C   | 0636.0        | 0636.9                     | 3.0               | 4.0                                                             | 1.0   |     |                 |
|     | 2950  | GORK | 1 S    | 0636.2        | 0636.8                     | 2.0               | 4.9                                                             | 2.4   |     |                 |
|     | 9100  | GORK | 1 S    | 0636.6        | 0637.0                     | 1.3               | 3.6                                                             | 2.0   |     |                 |
|     | 100   | GORK | 41 F   | 0655.7        | 0656.2                     | 3.5               | 4600.0                                                          |       |     |                 |
|     | 100   | GORK |        | 0655.7        | 0659.1                     |                   | 3600.0                                                          |       |     |                 |
|     | 430   | KRAK | 42 SER | 0734.8        | 0833.5                     | 126.0             | 330.00                                                          |       |     |                 |
|     | 430   | KRAK |        | 0734.8        | 0846.5                     |                   | 190.0                                                           |       |     |                 |
|     | 430   | KRAK |        | 0734.8        | 0856.0                     |                   | 330.00                                                          |       |     |                 |
|     | 9100  | GORK | 21 GRF | 0934.6        | 0940.0                     | 16.0              | 11.0                                                            | 2.5   |     |                 |
|     | 6100  | KISV | 45 C   | 0935.0        | 0937.3                     | 6.5               | 115.0                                                           |       |     |                 |
|     | 6100  | KISV |        | 0935.0        | 0939.1                     |                   | 30.0                                                            |       |     |                 |
|     | 9100  | GORK | 1 S    | 0935.4        | 0935.7                     | .5                | 4.0                                                             | 1.7   |     |                 |
|     | 3100  | CRIM | 3 S    | 0936.2        | 0937.1                     | 6.0               | 19.0                                                            | 6.0   |     |                 |
|     | 430   | KRAK | 45 C   | 0936.5        | 0936.8                     | 3.5               | 300.00                                                          | 8.0   |     |                 |
|     | 810   | KRAK | 45 C   | 0936.5        | 0936.8                     | 3.5               | 220.0                                                           | 35.0  |     |                 |
|     | 650   | GORK | 46 C   | 0936.5        | 0937.00                    | 3.2               | 110.00                                                          |       |     |                 |
|     | 950   | GORK | 46 C   | 0936.5        | 0937.0                     | 4.8               | 228.0                                                           |       |     |                 |
|     | 808   | ONDR | 46 C   | 0936.5        | 0937.00                    | 3.5               | 99.00                                                           |       |     |                 |
|     | 3000  | POTS | 4 S/F  | 0936.5        | 0937.1                     | 3.5               | 71.0                                                            |       |     |                 |
|     | 11800 | BERN | 45 C   | 0936.50       | 0937.3                     | 4.00              | 57.0                                                            |       |     |                 |
|     | 3100  | BERN | 45 C   | 0936.50       | 0937.3                     | 4.00              | 120.0                                                           |       |     |                 |
|     | 19600 | BERN | 3 S    | 0936.50       | 0937.3                     | 4.00              | 20.0                                                            |       |     |                 |
|     | 5200  | BERN | 45 C   | 0936.50       | 0937.3                     | 4.00              | 180.0                                                           |       |     |                 |
|     | 8400  | BERN | 45 C   | 0936.50       | 0937.3                     | 4.00              | 100.0                                                           |       |     |                 |
|     | 1470  | POTS | 4 S/F  | 0936.5        | 0937.5                     | 3.5               | 64.0                                                            |       |     |                 |
|     | 650   | GORK |        | 0936.5        | 0938.5                     |                   | 115.0                                                           |       |     |                 |
|     | 430   | KRAK |        | 0936.5        | 0938.5                     |                   | 230.0                                                           |       |     |                 |
|     | 950   | GORK |        | 0936.5        | 0938.5                     |                   | 32.0                                                            |       |     |                 |
|     | 2950  | GORK | 46 C   | 0936.6        | 0937.4                     | 4.7               | 60.0                                                            | 10.0  |     |                 |
|     | 2950  | GORK |        | 0936.6        | 0939.0                     |                   | 16.5                                                            | 8.0   |     |                 |
|     | 113   | POTS |        | 0936.7        | 0936.8                     | .9                | 2800.0                                                          | 450.0 |     | III             |
|     | 9100  | GORK | 3 S    | 0936.7        | 0937.2                     | 1.4               | 86.0                                                            | 43.0  |     |                 |
|     | 1415  | LEAR | 47 GB  | 0936.8        | 0937.1                     | 2.8               | 119.0                                                           |       |     | QL=6 ST=2 TYP=5 |
|     | 100   | GORK | 4 S/F  | 0936.8        | 0937.2                     | 1.0               | 24500.0                                                         |       |     |                 |
|     | 410   | LEAR | 47 GB  | 0936.8        | 0937.3                     | 2.3               | 470.0                                                           |       |     | QL=6 ST=2 TYP=5 |
|     | 4995  | LEAR | 47 GB  | 0936.8        | 0937.3                     | 2.8               | 97.0                                                            |       |     | QL=6 ST=2 TYP=5 |
|     | 2695  | LEAR | 47 GB  | 0936.8        | 0937.5                     | 1.5               | 56.0                                                            |       |     | QL=6 ST=2 TYP=5 |
|     | 9500  | POTS | 4 S/F  | 0936.9        | 0937.1                     | 1.3               | 55.0                                                            |       |     |                 |
|     | 234   | POTS | 42 SER | 0937.0        | 0937.0                     | 3.3               | 250000.0                                                        | 500.0 |     | III/V           |
|     | 610   | LEAR | 49 GB  | 0937.0        | 0937.1                     | .8                | 5900.0                                                          |       |     | QL=6 ST=2 TYP=6 |
|     | 8800  | LEAR | 47 GB  | 0937.0        | 0937.3                     | 1.1               | 69.0                                                            |       |     | QL=6 ST=2 TYP=5 |
|     | 3000  | IZMI | 5 S    | 0937.0        | 0937.6                     | 3.5               | 68.0                                                            | 35.0  |     |                 |
|     | 245   | LEAR | 49 GB  | 0937.1        | 0937.1                     | .4                | 1899.0                                                          |       |     | QL=6 ST=2 TYP=5 |
|     | 200   | GORK | 41 F   | 0937.3        | 0937.4                     | 3.1               | 6900.0                                                          |       |     |                 |
|     | 200   | GORK |        | 0937.3        | 0939.7                     |                   | 345.0                                                           |       |     |                 |

# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

9  
Apr 84

APRIL 1984

| Day | Freq  | Sta  | Type   | Start<br>(UT) | Time of<br>Maximum<br>(UT) | Duration<br>(Min) | Flux Density<br>Peak<br>(10 <sup>-22</sup> W/m <sup>2</sup> Hz) | Mean<br>(10 <sup>-22</sup> W/m <sup>2</sup> Hz) | Int | Remarks         |
|-----|-------|------|--------|---------------|----------------------------|-------------------|-----------------------------------------------------------------|-------------------------------------------------|-----|-----------------|
| 04  | 204   | IZMI | 41 F   | 0938.0        | 0938.5                     | 3.4               | 2500.0                                                          |                                                 |     |                 |
|     | 9100  | GORK | 1 S    | 0938.5        | 0939.0                     | .9                | 11.0                                                            | 5.0                                             |     |                 |
|     | 6100  | KISV | 29 PBI | 0941.5        | 0941.5                     | 9.5               | 4.0                                                             |                                                 |     |                 |
|     | 650   | GORK | 22 GRF | 1028.0U       | 1143.1                     | 92.0D             | 11.0                                                            |                                                 |     |                 |
|     | 2800  | OTTA | 20 GRF | 1155.0        | 1230.0                     | 40.0              | 2.6                                                             | 1.3                                             |     |                 |
|     | 2800  | OTTA | 22 GRF | 1258.0        | 1315.0                     | 30.0              | 3.6                                                             | 1.2                                             |     |                 |
|     | 410   | SGMR | 8 S    | 1303.6        | 1303.8                     | .5                | 29.0                                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 610   | SGMR | 8 S    | 1303.8        | 1303.8                     | 1.5               | 17.0                                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 234   | POTS | 4 S/F  | 1328.7        | 1328.9                     | .4                | 280.0                                                           | 30.0                                            |     |                 |
|     | 2800  | OTTA | 27A RF | 1440.0        |                            | 210.0             | 2.6                                                             | 2.3                                             |     |                 |
|     | 2800  | OTTA | 24 R   | 1440.0        | 1510.0                     | 30.0              | 2.6                                                             | 1.4                                             |     |                 |
|     | 2800  | OTTA | 24P R  | 1510.0        |                            | 165.0             | 2.6                                                             |                                                 |     |                 |
|     | 2800  | OTTA | 22 GRF | 1552.0        | 1555.0                     | 22.0              | 2.6                                                             | 1.2                                             |     |                 |
|     | 2800  | OTTA | 22 GRF | 1710.0        | 1715.0                     | 15.0              | 3.4                                                             | 1.7                                             |     |                 |
|     | 2800  | OTTA | 1 S    | 1742.0        | 1745.0                     | 8.0               | 2.2                                                             | 1.1                                             |     |                 |
|     | 2800  | OTTA | 26 FAL | 1755.0        | 1810.0                     | 15.0              | -2.6                                                            | -1.3                                            |     |                 |
|     | 2800  | OTTA | 21 GRF | 1815.0        | 1835.0                     | 70.0              | 6.6                                                             | 3.3                                             |     |                 |
|     | 2800  | OTTA | 3 S    | 1823.0        | 1826.0                     | 11.0              | 21.0                                                            | 8.4                                             |     |                 |
|     | 2695  | PALE | 4 S/F  | 1825.5        | 1825.6                     | 4.0               | 27.0                                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 2695  | SGMR | 20 GRF | 1826.1        | 1827.5                     | 2.2               | 19.0                                                            |                                                 |     | QL=6 ST=2 TYP=2 |
|     | 1415  | SGMR | 20 GRF | 1826.1        | 1827.6                     | 1.5               | 17.0                                                            |                                                 |     | QL=6 ST=2 TYP=2 |
|     | 4995  | SGMR | 20 GRF | 1826.1        | 1827.6                     | 1.5               | 13.0                                                            |                                                 |     | QL=6 ST=2 TYP=2 |
|     | 8800  | SGMR | 20 GRF | 1827.0        | 1829.1                     | 2.1               | 16.0                                                            |                                                 |     | QL=6 ST=2 TYP=2 |
|     | 1415  | PALE | 8 S    | 1827.1        | 1827.3                     | .7                | 11.0                                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 2800  | OTTA | 45 C   | 1837.8        | 1839.8                     | 3.5               | 8.6                                                             | 4.0                                             |     |                 |
|     | 410   | SGMR | 47 GB  | 1838.0        | 1840.1                     | 2.3               | 50.0                                                            |                                                 |     | QL=6 ST=2 TYP=5 |
|     | 410   | PALE | 47 GB  | 1838.1        | 1838.5                     | 4.4               | 98.0                                                            |                                                 |     | QL=6 ST=2 TYP=5 |
|     | 1415  | SGMR | 8 S    | 1838.1        | 1838.5                     | .9                | 48.0                                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 610   | PALE | 47 GB  | 1838.1        | 1838.8                     | 2.5               | 119.0                                                           |                                                 |     | QL=6 ST=2 TYP=5 |
|     | 1415  | PALE | 8 S    | 1838.3        | 1838.5                     | .5                | 47.0                                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 245   | PALE | 49 GB  | 1838.3        | 1838.6                     | .7                | 580.0                                                           |                                                 |     | QL=6 ST=2 TYP=6 |
|     | 610   | SGMR | 47 GB  | 1838.5        | 1838.8                     | 2.0               | 119.0                                                           |                                                 |     | QL=6 ST=2 TYP=5 |
|     | 245   | SGMR | 49 GB  | 1838.5        | 1840.1                     | 2.0               | 770.0                                                           |                                                 |     | QL=6 ST=2 TYP=6 |
|     | 4995  | PALE | 8 S    | 1839.8        | 1840.1                     | .5                | 13.0                                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 4995  | SGMR | 8 S    | 1839.8        | 1840.1                     | .5                | 16.0                                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 15400 | SGMR | 8 S    | 1840.0        | 1840.1                     | .3                | 13.0                                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 2800  | OTTA | 1 S    | 1842.0        | 1842.5                     | 1.0               | 2.6                                                             | 1.3                                             |     |                 |
|     | 410   | PALE | 8 S    | 1842.6        | 1842.6                     | .5                | 47.0                                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 410   | PALE | 8 S    | 1938.0        | 1938.3                     | .6                | 23.0                                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 2800  | OTTA | 20 GRF | 2010.0        | 2030.0                     | 40.0              | 2.6                                                             | 1.3                                             |     |                 |
|     | 500   | HIRA | 27 RF  | 2106.0        | 2143.4                     | 75.0              | 26.0                                                            | 10.0                                            |     | MR              |
|     | 3750  | TYKW | 20 GRF | 2115.0        | 2300.0                     | 255.0             | 8.0                                                             | 4.0                                             |     |                 |
|     | 2800  | OTTA | 20 GRF | 2120.0        | 2255.0                     | 160.0             | 5.6                                                             | 2.8                                             |     |                 |
|     | 2000  | TYKW | 20 GRF | 2230.0        | 2300.0                     | 90.0              | 2.0                                                             | 1.0                                             |     |                 |
| 05  | 410   | LEAR | 43 NS  | 0020.0        | 0428.1                     | 583.0D            | 40.0                                                            |                                                 |     | QL=6 ST=2 TYP=1 |
|     | 200   | GORK | 44 NS  | 0354.0E       |                            | 486.0D            |                                                                 | 90.0                                            |     |                 |
|     | 100   | GORK | 44 NS  | 0354.0E       |                            | 486.0D            |                                                                 | 20.0                                            |     |                 |
|     | 204   | IZMI | 44 NS  | 0600.0E       |                            | 360.0D            | 200.0                                                           |                                                 |     |                 |
|     | 260   | ONDR | 44 NS  | 0607.0E       |                            | 484.0D            |                                                                 |                                                 |     |                 |
|     | 127   | TORN | 44 NS  | 0620.0E       | 1140.5                     | 520.0D            | 1900.0                                                          | 750.0                                           |     | V=1             |
|     | 33    | UPIC | 43 NS  | 0631.8        |                            | 577.0             |                                                                 |                                                 |     |                 |
|     | 29    | UPIC | 43 NS  | 0643.3        |                            | 565.7             |                                                                 |                                                 |     |                 |
|     | 430   | KRAK | 44 NS  | 0700.0E       | 1115.0                     | 360.0D            | 20.0                                                            |                                                 |     |                 |
|     | 245   | PALE | 43 NS  | 1638.0        | 2041.8                     | 682.0D            | 440.0                                                           |                                                 |     | QL=6 ST=2 TYP=1 |
|     | 208   | VORO | 44 NS  | 2200.0E       |                            | 360.0D            |                                                                 | 32.0                                            |     |                 |
|     | 245   | LEAR | 43 NS  | 2250.0        | 0338.0                     | 672.0D            | 800.0                                                           |                                                 |     | QL=6 ST=2 TYP=1 |
|     | 410   | LEAR | 8 S    | 0017.3        | 0017.6                     | 1.0               | 19.0                                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 1415  | LEAR | 4 S/F  | 0317.1        | 0318.8                     | 3.0               | 18.0                                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 2000  | TYKW | 45 C   | 0317.2        | 0318.8                     | 3.0               | 8.0                                                             | 1.5                                             |     |                 |
|     | 9400  | TYKW | 20 GRF | 0330.0        | 0337.0                     | 50.0              | 4.0                                                             | 2.0                                             |     | RAIN            |
|     | 3750  | TYKW | 20 GRF | 0335.0        | 0337.0                     | 50.0              | 3.0                                                             | 1.5                                             |     |                 |
|     | 2000  | TYKW | 20 GRF | 0335.0        | 0350.0                     | 60.0              | 1.5                                                             | 0.7                                             |     |                 |
|     | 650   | GORK | 23 GRF | 0412.0E       | 1114.7                     | 474.0D            | 25.0                                                            |                                                 |     |                 |
|     | 200   | GORK | 41 F   | 0559.0        | 0559.5                     | 3.6               | 930.0                                                           |                                                 |     |                 |
|     | 200   | GORK |        | 0559.0        | 0600.6                     |                   | 1550.0                                                          |                                                 |     |                 |
|     | 200   | GORK |        | 0559.0        | 0602.4                     |                   | 530.0                                                           |                                                 |     |                 |
|     | 100   | GORK | 27 RF  | 0559.2        | 0851.6                     | 258.0             | 4200.0                                                          |                                                 |     |                 |
|     | 3750  | TYKW | 5 S    | 0622.0        | 0625.5                     | 15.0              | 1.5                                                             | 0.7                                             |     |                 |
|     | 200   | GORK | 27 RF  | 0650.0        | 0857.0                     | 310.0D            | 1280.0                                                          |                                                 |     |                 |
|     | 2000  | TYKW | 21 GRF | 0705.0        | 0758.0                     | 90.0D             | 6.0                                                             | 4.0D                                            |     |                 |

10  
Apr 84

# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

APRIL 1984

| Day | Freq  | Sta  | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density Peak (10 <sup>-22</sup> W/m <sup>2</sup> Hz) | Mean   | Int   | Remarks         |
|-----|-------|------|------|------------|----------------------|----------------|-----------------------------------------------------------|--------|-------|-----------------|
| 05  | 2950  | GORK | 21   | GRF        | 0707.5               | 0800.0         | 300.00                                                    | 18.0   | 9.0   |                 |
|     | 6100  | KISV |      |            | 0714.9               | 0717.0         |                                                           | 5.0    |       |                 |
|     | 6100  | KISV | 46   | C          | 0714.9               | 0721.7         | 10.0                                                      | 15.0   |       |                 |
|     | 9100  | GORK | 21   | GRF        | 0715.3               | 0722.4         | 10.2                                                      | 8.0    | 4.0   |                 |
|     | 9400  | TYKW | 45   | C          | 0719.0               | 0721.6         | 8.0                                                       | 12.0   | 4.0   | RAIN            |
|     | 1000  | TYKW | 45   | C          | 0719.0               | 0721.8         | 7.0                                                       | 17.0   | 4.0   |                 |
|     | 3750  | TYKW | 5    | S          | 0719.0               | 0721.9         | 8.0                                                       | 6.0    | 2.0   |                 |
|     | 4995  | LEAR | 4    | S/F        | 0719.0               | 0722.1         | 6.0                                                       | 10.0   |       | QL=6 ST=2 TYP=3 |
|     | 2695  | LEAR | 4    | S/F        | 0719.0               | 0722.1         | 7.3                                                       | 10.0   |       | QL=6 ST=2 TYP=3 |
|     | 950   | GORK | 4    | S/F        | 0719.6               | 0721.7         | 5.2                                                       | 14.0   |       |                 |
|     | 8400  | BERN | 3    | S          | 0720.00              | 0722.00        | 6.00                                                      | 16.0   |       |                 |
|     | 5200  | BERN | 3    | S          | 0720.00              | 0722.00        | 6.00                                                      | 15.0   |       |                 |
|     | 3100  | BERN | 3    | S          | 0720.00              | 0722.00        | 6.00                                                      | 9.0    |       |                 |
|     | 650   | GORK | 4    | S/F        | 0720.2               | 0720.6         | .6                                                        | 9.0    | 3.0   |                 |
|     | 8800  | LEAR | 4    | S/F        | 0720.3               | 0721.1         | 4.7                                                       | 11.0   |       | QL=6 ST=2 TYP=3 |
|     | 1470  | POTS | 40   | F          | 0720.5               | 0721.4         | 9.5                                                       | 8.0    |       |                 |
|     | 2000  | TYKW | 45   | C          | 0720.5               | 0721.7         | 6.0                                                       | 5.0    | 1.5   |                 |
|     | 9500  | POTS | 20   | GRF        | 0720.5               | 0721.8         | 6.5                                                       | 12.0   |       |                 |
|     | 1415  | LEAR | 4    | S/F        | 0720.8               | 0721.3         | 3.2                                                       | 20.0   |       | QL=6 ST=2 TYP=3 |
|     | 2950  | GORK | 1    | S          | 0720.9               | 0722.0         | 3.1                                                       | 10.0   | 5.0   |                 |
|     | 9100  | GORK | 2    | S/F        | 0721.0               | 0721.5         | 1.4                                                       | 9.0    |       |                 |
|     | 808   | ONDR | 4    | S/F        | 0721.0               | 0721.5         | 1.5                                                       | 8.0    |       |                 |
|     | 3750  | TYKW | 20   | GRF        | 0730.0               | 0758.0         | 60.00                                                     | 5.0    | 2.50  |                 |
|     | 9400  | TYKW | 20   | GRF        | 0730.0               | 0758.0         | 60.00                                                     | 4.0    | 2.00  |                 |
|     | 9100  | GORK | 1    | S          | 0730.0               | 0732.8         | 6.0                                                       | 3.6    | 1.5   |                 |
|     | 9100  | GORK | 20   | GRF        | 0744.4               | 1013.6         | 262.0                                                     | 9.0    | 4.0   |                 |
|     | 6100  | KISV | 22   | GRF        | 0748.0               | 0804.4         | 20.0                                                      | 6.0    |       |                 |
|     | 1000  | TYKW | 5    | S          | 0807.0               | 0807.2         | 0.6                                                       | 11.0   | 3.0   |                 |
|     | 410   | LEAR | 47   | GB         | 0857.3               | 0857.6         | .3                                                        | 84.0   |       | QL=6 ST=2 TYP=5 |
|     | 430   | KRAK | 45   | C          | 1020.0               | 1021.5         | 3.5                                                       | 68.0   | 18.0  |                 |
|     | 650   | GORK | 40   | F          | 1103.4               | 1111.5         | 43.0                                                      | 20.0   |       |                 |
|     | 650   | GORK |      |            | 1103.4               | 1121.1         |                                                           | 14.0   |       |                 |
|     | 536   | ONDR | 40   | F          | 1107.0               | 1109.0         | 49.0                                                      | 10.0   |       |                 |
|     | 234   | POTS | 4    | S/F        | 1119.6               | 1119.8         | .4                                                        | 55.0   |       |                 |
|     | 2800  | OTTA | 21   | GRF        | 1300.0               | 1338.0         | 80.0                                                      | 30.0   | 8.8   |                 |
|     | 1470  | POTS | 45   | C          | 1323.0               | 1331.5         | 30.0                                                      | 20.0   |       |                 |
|     | 9500  | POTS | 20   | GRF        | 1325.0               | 1337.0         | 65.0                                                      | 10.0   |       |                 |
|     | 2695  | SGMR | 47   | GB         | 1328.8               | 1330.3         | 11.0                                                      | 54.0   |       | QL=6 ST=3 TYP=5 |
|     | 3000  | POTS | 45   | C          | 1329.00              | 1330.5         | 20.00                                                     | 28.0   |       |                 |
|     | 2800  | OTTA | 45   | C          | 1329.5               | 1330.2         | 7.0                                                       | 10.4   | 3.5   |                 |
|     | 2695  | ATHN | 4    | S/F        | 1329.6               | 1330.3         | 6.5                                                       | 34.0   |       | QL=6 ST=3 TYP=3 |
|     | 1415  | ATHN | 4    | S/F        | 1329.6               | 1331.0         | 6.0                                                       | 23.0   |       | QL=6 ST=3 TYP=3 |
|     | 536   | ONDR | 46   | C          | 1329.8               |                | 12.2                                                      |        | 30.0  |                 |
|     | 4995  | ATHN | 4    | S/F        | 1329.8               | 1330.3         | 5.7                                                       | 21.0   |       | QL=6 ST=3 TYP=3 |
|     | 536   | ONDR |      |            | 1329.8               | 1332.0         |                                                           | 30.0   |       |                 |
|     | 536   | ONDR |      |            | 1329.8               | 1334.0         |                                                           | 72.0   |       |                 |
|     | 536   | ONDR |      |            | 1329.8               | 1339.0         |                                                           | 31.0   |       |                 |
|     | 1415  | SGMR | 4    | S/F        | 1330.0               | 1330.8         | 7.0                                                       | 32.0   |       | QL=6 ST=3 TYP=3 |
|     | 610   | SGMR | 47   | GB         | 1330.0               | 1331.1         | 6.6                                                       | 119.0  |       | QL=6 ST=3 TYP=5 |
|     | 808   | ONDR | 40   | F          | 1330.0               | 1333.5         | 10.0                                                      | 29.0   |       |                 |
|     | 4995  | SGMR | 4    | S/F        | 1330.1               | 1330.5         | 9.7                                                       | 22.0   |       | QL=6 ST=3 TYP=3 |
|     | 410   | SGMR | 47   | GB         | 1330.1               | 1334.1         | 7.4                                                       | 50.0   |       | QL=6 ST=3 TYP=5 |
|     | 8800  | ATHN | 4    | S/F        | 1330.1               | 1336.6         | 8.0                                                       | 21.0   |       | QL=6 ST=3 TYP=3 |
|     | 15400 | SGMR | 4    | S/F        | 1334.3               | 1335.1         | 4.2                                                       | 29.0   |       | QL=6 ST=3 TYP=3 |
|     | 610   | PALE | 20   | GRF        | 1729.8               | 1735.3         | 29.7                                                      | 37.0   |       | QL=6 ST=2 TYP=2 |
|     | 9400  | TYKW | 5    | S          | 2315.0               | 2315.1         | 0.6                                                       | 14.0   | 4.0   |                 |
|     | 3750  | TYKW | 5    | S          | 2317.3               | 2318.2         | 2.0                                                       | 1.0    | 0.3   |                 |
|     | 2695  | PENT | 8    | S          | 2318.0               | 2318.0         | .5                                                        | 9.8    |       |                 |
|     | 410   | LEAR | 8    | S          | 2355.5               | 2356.1         | 1.0                                                       | 11.0   |       | QL=6 ST=2 TYP=3 |
| 06  | 410   | LEAR | 43   | NS         | 0022.1               | 0614.5         | 579.90                                                    | 110.0  |       | QL=6 ST=2 TYP=1 |
|     | 200   | GORK | 44   | NS         | 0338.0E              |                | 505.00                                                    |        | 100.0 |                 |
|     | 100   | GORK | 44   | NS         | 0354.0E              |                | 500.00                                                    |        | 180.0 |                 |
|     | 204   | IZMI | 44   | NS         | 0600.0E              |                | 360.00                                                    | 100.0  |       |                 |
|     | 260   | ONDR | 44   | NS         | 0610.0E              |                | 481.00                                                    | 80.0   |       |                 |
|     | 127   | TORN | 44   | NS         | 0620.0E              | 1021.7         | 520.00                                                    | 110.0  | 12.0  | V=1             |
|     | 245   | SGMR | 44   | NS         | 1038.0E              | 1555.6         |                                                           | 1899.0 |       | QL=6 ST=3 TYP=1 |
|     | 245   | PALE | 43   | NS         | 1637.0               | 2511.6         | 683.00                                                    | 290.0  |       | QL=6 ST=2 TYP=1 |
|     | 200   | HIRA | 44   | NS         | 2016.0E              | 0024.0         | 770.00                                                    | 70.0   | 10.0  | MR              |
|     | 410   | SGMR | 43   | NS         | 2127.0               | 2152.0         |                                                           | 189.0  |       | QL=6 ST=3 TYP=1 |
|     | 610   | SGMR | 43   | NS         | 2151.8               | 2152.0         |                                                           | 32.0   |       | QL=6 ST=3 TYP=1 |

# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

11  
Apr 84

APRIL 1984

| Day | Freq  | Sta  | Type   | Start<br>(UT) | Time of<br>Maximum<br>(UT) | Duration<br>(Min) | Flux Density<br>Peak<br>(10 <sup>-22</sup> W/m <sup>2</sup> Hz) | Mean<br>(2 Hz) | Int | Remarks         |
|-----|-------|------|--------|---------------|----------------------------|-------------------|-----------------------------------------------------------------|----------------|-----|-----------------|
| 06  | 208   | VORO | 44 NS  | 2200.0E       |                            | 120.00            |                                                                 | 22.0           |     |                 |
|     | 245   | LEAR | 43 NS  | 2250.0        | 2311.6                     | 672.00            | 210.0                                                           |                |     | QL=6 ST=2 TYP=1 |
|     | 3750  | TYKW | 45 C   | 0149.0        | 0206.8                     | 61.0              | 21.0                                                            | 12.0           |     |                 |
|     | 3750  | TYKW |        | 0149.0        | 0237.6                     |                   | 20.0                                                            |                |     |                 |
|     | 100   | HIRA | 42 SER | 0151.3        | 0200.9                     | 11.7              | 3700.0                                                          |                |     |                 |
|     | 245   | LEAR | 49 GB  | 0152.1        | 0205.8                     | 37.5              | 230.0                                                           |                |     | QL=6 ST=3 TYP=6 |
|     | 1000  | TYKW | 45 C   | 0153.0        | 0206.1                     | 27.0              | 62.0                                                            | 10.0           |     |                 |
|     | 1415  | LEAR | 4 S/F  | 0153.8        | 0200.0                     | 35.0              | 27.0                                                            |                |     | QL=6 ST=3 TYP=3 |
|     | 2000  | TYKW | 45 C   | 0154.0        | 0203.6                     | 25.0              | 36.0                                                            | 13.0           |     |                 |
|     | 2840  | PEKG | 45 C   | 0156.0        | 0206.6                     | 15.0              | 22.0                                                            | 12.3           |     |                 |
|     | 9400  | TYKW | 21 GRF | 0156.0        | 0209.0                     | 185.0             | 11.0                                                            | 4.0            |     |                 |
|     | 8800  | LEAR | 4 S/F  | 0156.1        | 0205.0                     | 33.5              | 15.0                                                            |                |     | QL=6 ST=3 TYP=3 |
|     | 410   | LEAR | 47 GB  | 0156.3        | 0201.8                     | 33.3              | 34.0                                                            |                |     | QL=6 ST=3 TYP=5 |
|     | 4995  | LEAR | 4 S/F  | 0156.3        | 0202.0                     | 33.3              | 11.0                                                            |                |     | QL=6 ST=3 TYP=3 |
|     | 200   | HIRA | 46 C   | 0156.3        | 0208.7                     | 34.0              | 510.0                                                           | 106.0          |     | MR              |
|     | 200   | HIRA |        | 0156.3        | 0223.0                     |                   | 70.0                                                            |                |     | MR              |
|     | 500   | HIRA | 27 RF  | 0156.7        | 0416.0                     | 265.0             | 30.0                                                            | 10.0           |     | MR              |
|     | 610   | LEAR | 47 GB  | 0157.3        | 0201.8                     | 32.2              | 19.0                                                            |                |     | QL=6 ST=3 TYP=5 |
|     | 2695  | LEAR | 4 S/F  | 0157.6        | 0200.1                     | 30.5              | 17.0                                                            |                |     | QL=6 ST=3 TYP=3 |
|     | 1415  | PALE | 4 S/F  | 0158.6        | 0159.8                     | 12.0              | 25.0                                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 2695  | PALE | 8 S    | 0159.8        | 0200.1                     | .3                | 16.0                                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 410   | PALE | 49 GB  | 0159.8        | 0201.8                     | 14.5              | 30.0                                                            |                |     | QL=6 ST=2 TYP=6 |
|     | 208   | VORO | 20 GRF | 0200.0        | 0207.0                     | 20.0              | 200.00                                                          |                |     |                 |
|     | 245   | PALE | 49 GB  | 0200.3        | 0200.3                     | 14.0              | 68.0                                                            |                |     | QL=6 ST=2 TYP=6 |
|     | 610   | PALE | 47 GB  | 0201.6        | 0201.6                     | 10.0              | 13.0                                                            |                |     | QL=6 ST=2 TYP=5 |
|     | 15400 | LEAR | 8 S    | 0202.1        | 0204.1                     | 2.0               | 13.0                                                            |                |     | QL=6 ST=3 TYP=3 |
|     | 500   | HIRA | 45 C   | 0202.9        | 0206.6                     | 6.6               | 150.0                                                           | 70.0           |     | MR              |
|     | 4995  | PALE | 8 S    | 0203.3        | 0203.8                     | .7                | 11.0                                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 100   | HIRA | 46 C   | 0205.1        | 0206.5                     | 15.3              | 480.0                                                           | 230.0          |     |                 |
|     | 2840  | PEKG | 30 FBI | 0211.0        |                            | 41.0              | 14.9                                                            | 11.9           |     |                 |
|     | 2000  | TYKW | 30 FBI | 0219.0        |                            | 150.0             | 7.0                                                             | 3.0            |     |                 |
|     | 1000  | TYKW | 30 FBI | 0220.0        |                            | 30.0              | 2.0                                                             | 1.0            |     |                 |
|     | 1000  | TYKW | 45 C   | 0221.0        | 0225.7                     | 8.0               | 9.0                                                             | 3.0            |     |                 |
|     | 100   | HIRA | 24 R   | 0221.0        | 0407.0                     | 420.00            | 1500.00                                                         | 890.00         |     |                 |
|     | 2000  | TYKW | 5 S    | 0222.0        | 0222.6                     | 2.0               | 3.0                                                             | 1.0            |     |                 |
|     | 2000  | TYKW | 45 C   | 0224.5        | 0226.3                     | 3.5               | 20.0                                                            | 8.0            |     |                 |
|     | 9400  | TYKW | 5 S    | 0227.5        | 0228.8                     | 6.0               | 10.0                                                            | 2.0            |     |                 |
|     | 2000  | TYKW | 29 FBI | 0228.0        |                            | 7.0               | 3.0                                                             | 1.5            |     |                 |
|     | 1000  | TYKW | 29 FBI | 0229.0        |                            | 6.0               | 3.0                                                             | 1.5            |     |                 |
|     | 200   | HIRA | 27 RF  | 0231.0        | 0405.0                     | 350.0             | 740.0                                                           | 300.0          |     | MR              |
|     | 2000  | TYKW | 5 S    | 0235.0        | 0237.6                     | 8.0               | 12.0                                                            | 3.0            |     |                 |
|     | 9400  | TYKW | 5 S    | 0236.0        | 0237.4                     | 5.0               | 2.0                                                             | 1.0            |     |                 |
|     | 1000  | TYKW | 5 S    | 0236.5        | 0237.5                     | 3.5               | 5.0                                                             | 1.5            |     |                 |
|     | 2840  | PEKG | 1 S    | 0236.5        | 0237.5                     | 3.5               | 8.1                                                             | 3.6            |     |                 |
|     | 3750  | TYKW | 30 FBI | 0250.0        |                            | 250.0             | 7.0                                                             | 3.0            |     |                 |
|     | 2840  | PEKG | 45 C   | 0252.0        | 0300.6                     | 13.0              | 82.2                                                            | 19.3           |     |                 |
|     | 3750  | TYKW | 45 C   | 0253.0        | 0300.80                    | 28.0              | 57.0                                                            | 14.00          |     |                 |
|     | 9400  | TYKW | 45 C   | 0253.0        | 0300.9                     | 25.0              | 88.0                                                            | 25.00          |     |                 |
|     | 2000  | TYKW | 45 C   | 0253.0        | 0301.2                     | 25.0              | 59.0                                                            | 12.0           |     |                 |
|     | 1000  | TYKW | 45 C   | 0255.0        | 0258.9                     | 16.0              | 378.0                                                           | 55.0           |     |                 |
|     | 2930  | VORO | 45 C   | 0255.0        | 0300.0                     | 10.0              | 91.0                                                            |                |     |                 |
|     | 17000 | NOBE | 7 C    | 0256.1        | 0300.9                     | 46.0              | 57.0                                                            |                |     | L               |
|     | 500   | HIRA | 45 C   | 0256.5        | 0300.5                     | 12.0              | 540.0                                                           | 160.0          |     | WL              |
|     | 610   | PALE | 49 GB  | 0256.8        | 0300.5                     | 13.5              | 710.0                                                           |                |     | QL=6 ST=2 TYP=6 |
|     | 2902  | YUNN | 45 C   | 0257.0        | 0301.0                     | 21.0              | 80.0                                                            |                |     |                 |
|     | 2695  | PALE | 47 GB  | 0257.0        | 0300.8                     | 6.8               | 67.0                                                            |                |     | QL=6 ST=2 TYP=5 |
|     | 245   | PALE | 49 GB  | 0257.3        | 0300.8                     | 13.0              | 250.0                                                           |                |     | QL=6 ST=2 TYP=6 |
|     | 1415  | PALE | 47 GB  | 0257.5        | 0300.6                     | 8.6               | 119.0                                                           |                |     | QL=6 ST=2 TYP=5 |
|     | 8800  | PALE | 47 GB  | 0257.5        | 0300.8                     | 12.8              | 97.0                                                            |                |     | QL=6 ST=2 TYP=5 |
|     | 4995  | PALE | 47 GB  | 0257.6        | 0300.8                     | 6.2               | 68.0                                                            |                |     | QL=6 ST=2 TYP=5 |
|     | 410   | PALE | 47 GB  | 0257.8        | 0258.8                     | 12.5              | 360.0                                                           |                |     | QL=6 ST=2 TYP=5 |
|     | 15400 | PALE | 47 GB  | 0257.8        | 0300.8                     | 12.5              | 67.0                                                            |                |     | QL=6 ST=2 TYP=5 |
|     | 35000 | NOBE | 1 S    | 0258.1        |                            | 8.0               |                                                                 |                |     |                 |
|     | 200   | HIRA | 46 C   | 0259.2        | 0303.7                     | 25.7              | 750.0                                                           | 267.0          |     | MR              |
|     | 208   | VORO | 29 FBI | 0300.0        |                            | 60.0              |                                                                 | 200.0          |     |                 |
|     | 245   | LEAR | 49 GB  | 0309.1        | 0309.6                     | 11.9              | 410.0                                                           |                |     | QL=6 ST=3 TYP=6 |
|     | 610   | PALE | 49 GB  | 0310.3        | 0310.3                     | 3.3               | 710.0                                                           |                |     | QL=6 ST=2 TYP=6 |
|     | 8800  | PALE | 47 GB  | 0310.3        | 0310.3                     | 2.7               | 78.0                                                            |                |     | QL=6 ST=2 TYP=5 |
|     | 245   | PALE | 49 GB  | 0310.3        | 0310.6                     | 11.5              | 380.0                                                           |                |     | QL=6 ST=2 TYP=6 |
|     | 410   | PALE | 47 GB  | 0310.3        | 0313.3                     | 11.5              | 230.0                                                           |                |     | QL=6 ST=2 TYP=5 |
|     | 1000  | TYKW | 30 FBI | 0311.0        |                            | 200.0             | 4.0                                                             | 2.0            |     |                 |



12  
Apr 84

# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

APRIL 1984

| Day | Freq  | Sta  | Type   | Start<br>(UT) | Time of<br>Maximum<br>(UT) | Duration<br>(Min) | Flux Density              |      | Int | Remarks         |
|-----|-------|------|--------|---------------|----------------------------|-------------------|---------------------------|------|-----|-----------------|
|     |       |      |        |               |                            |                   | Peak<br>(10 -22 W/m 2 Hz) | Mean |     |                 |
| 06  | 1000  | TYKW |        | 0311.0        | 0315.2                     |                   | 41.0                      |      |     |                 |
|     | 1000  | TYKW | 45 C   | 0311.0        | 0320.4                     | 10.0              | 192.0                     | 7.0  |     |                 |
|     | 15400 | PALE | 8 S    | 0312.5        | 0312.6                     | .3                | 23.0                      |      |     | QL=6 ST=2 TYP=3 |
|     | 1415  | PALE | 8 S    | 0313.8        | 0315.1                     | 2.0               | 28.0                      |      |     | QL=6 ST=2 TYP=3 |
|     | 500   | HIRA | 30 PBI | 0314.0        | 0314.0                     | 45.0              | 60.0                      | 20.0 |     | MR              |
|     | 2695  | LEAR | 4 S/F  | 0315.5        | 0338.8                     | 41.3              | 18.0                      |      |     | QL=6 ST=2 TYP=3 |
|     | 1415  | LEAR | 47 GB  | 0316.1        | 0339.1                     | 40.7              | 119.0                     |      |     | QL=6 ST=2 TYP=5 |
|     | 2000  | TYKW | 30 PBI | 0318.0        |                            | 70.0              | 3.0                       | 1.5  |     |                 |
|     | 9400  | TYKW | 30 PBI | 0318.0        |                            | 90.0              | 19.0                      | 9.0  |     |                 |
|     | 3750  | TYKW | 30 PBI | 0321.0        |                            | 75.0              | 7.0                       | 3.0  |     |                 |
|     | 245   | LEAR | 49 GB  | 0321.0        | 0338.3                     | 35.8              | 1000.0                    |      |     | QL=6 ST=2 TYP=6 |
|     | 410   | PALE | 47 GB  | 0321.8        | 0323.8                     | 4.7               | 200.0                     |      |     | QL=6 ST=2 TYP=5 |
|     | 245   | PALE | 49 GB  | 0321.8        | 0323.8                     | 5.8               | 650.0                     |      |     | QL=6 ST=2 TYP=6 |
|     | 8800  | LEAR | 4 S/F  | 0321.8        | 0336.8                     | 35.0              | 36.0                      |      |     | QL=6 ST=2 TYP=3 |
|     | 15400 | LEAR | 4 S/F  | 0321.8        | 0338.8                     | 35.0              | 38.0                      |      |     | QL=6 ST=2 TYP=3 |
|     | 4995  | LEAR | 4 S/F  | 0321.8        | 0339.0                     | 35.0              | 22.0                      |      |     | QL=6 ST=2 TYP=3 |
|     | 2000  | TYKW | 45 C   | 0325.0        | 0325.8                     | 2.0               | 1.5                       | 0.5  |     |                 |
|     | 1000  | TYKW | 45 C   | 0325.0        | 0325.9                     | 3.0               | 5.0                       | 1.0  |     |                 |
|     | 1000  | TYKW | 28 PRE | 0329.5        | 0330.7                     | 6.5               | 4.0                       | 1.5  |     |                 |
|     | 2840  | PEKG | 45 C   | 0334.0        | 0336.5                     | 7.0               |                           |      |     |                 |
|     | 2840  | PEKG |        | 0334.0        | 0339.2                     |                   | 8.2                       | 4.0  |     |                 |
|     | 3750  | TYKW | 45 C   | 0335.0        | 0339.1                     | 5.5               | 17.0                      | 4.0  |     |                 |
|     | 9400  | TYKW | 45 C   | 0336.0        | 0336.8                     | 8.0               | 13.0                      | 5.0  |     |                 |
|     | 2000  | TYKW | 45 C   | 0336.0        | 0338.7                     | 4.5               | 9.0                       | 5.0  |     |                 |
|     | 1000  | TYKW | 45 C   | 0336.0        | 0339.2                     | 9.0               | 250.0                     | 30.0 |     |                 |
|     | 1415  | PALE | 47 GB  | 0336.5        | 0336.6                     | 3.3               | 56.0                      |      |     | QL=6 ST=2 TYP=5 |
|     | 245   | PALE | 49 GB  | 0336.5        | 0338.3                     | 10.6              | 1100.0                    |      |     | QL=6 ST=2 TYP=6 |
|     | 500   | HIRA | 6 S    | 0337.8        | 0338.6                     | 2.0               | 50.0                      | 30.0 |     | MR              |
|     | 610   | PALE | 47 GB  | 0338.6        | 0338.6                     | 1.0               | 54.0                      |      |     | QL=6 ST=2 TYP=5 |
|     | 2000  | TYKW | 5 S    | 0341.5        | 0342.1                     | 2.5               | 3.0                       | 1.0  |     |                 |
|     | 3750  | TYKW | 5 S    | 0341.7        | 0342.0                     | 1.5               | 4.0                       | 1.5  |     |                 |
|     | 17000 | NOBE | 29 PBI | 0342.1        | 0342.1                     | 30.0              | 16.0                      |      |     | 0               |
|     | 1000  | TYKW | 45 C   | 0348.5        | 0348.7                     | 1.5               | 11.0                      | 2.0  |     |                 |
|     | 1000  | TYKW | 45 C   | 0358.5        | 0358.7                     | 1.5               | 6.0                       | 0.7  |     |                 |
|     | 650   | GORK | 22 GRF | 0408.0E       | 0424.0                     | 121.6D            | 13.0                      |      |     |                 |
|     | 610   | LEAR | 8 S    | 0415.8        | 0416.0                     | .3                | 22.0                      |      |     | QL=6 ST=2 TYP=3 |
|     | 2000  | TYKW | 21 GRF | 0535.0        | 0600.0                     | 90.0              | 2.0                       | 1.0  |     |                 |
|     | 3750  | TYKW | 20 GRF | 0537.0        | 0557.0                     | 80.0              | 3.0                       | 1.5  |     |                 |
|     | 610   | LEAR | 20 GRF | 0537.6        | 0542.8                     | 8.7               | 8.0                       |      |     | QL=6 ST=2 TYP=2 |
|     | 1415  | LEAR | 47 GB  | 0538.8        | 0539.1                     | 6.5               | 71.0                      |      |     | QL=6 ST=2 TYP=5 |
|     | 1000  | TYKW | 45 C   | 0539.0        | 0540.7                     | 2.5               | 5.0                       | 1.0  |     |                 |
|     | 950   | GORK | 2 S/F  | 0539.2        | 0540.7                     | 1.9               | 4.2                       |      |     |                 |
|     | 9400  | TYKW | 20 GRF | 0540.0        | 0554.0                     | 60.0              | 4.0                       | 2.0  |     |                 |
|     | 9100  | GORK | 20 GRF | 0541.8        | 0543.9                     | 13.2              | 4.0                       |      |     |                 |
|     | 2000  | TYKW | 45 C   | 0548.0        | 0549.9                     | 5.0               | 24.0                      | 3.0  |     |                 |
|     | 2950  | GORK | 20 GRF | 0548.5        | 0554.0                     | 28.0              | 5.1                       | 2.5  |     |                 |
|     | 536   | ONDR | 40 F   | 0700.0        | 0716.0                     | 22.5              | 53.0                      |      |     |                 |
|     | 650   | GORK | 20 GRF | 0710.0        | 0721.0                     | 20.4              | 4.5                       | 2.0  |     |                 |
|     | 610   | LEAR | 8 S    | 0713.8        | 0714.0                     | .3                | 21.0                      |      |     | QL=6 ST=2 TYP=3 |
|     | 410   | LEAR | 47 GB  | 0713.8        | 0714.0                     | .3                | 93.0                      |      |     | QL=6 ST=2 TYP=5 |
|     | 2000  | TYKW | 5 S    | 0733.0        | 0733.7                     | 2.0               | 1.5                       | 0.5  |     |                 |
|     | 610   | LEAR | 8 S    | 0805.6        | 0806.0                     | .5                | 18.0                      |      |     | QL=6 ST=2 TYP=3 |
|     | 410   | LEAR | 47 GB  | 0805.6        | 0806.0                     | .5                | 98.0                      |      |     | QL=6 ST=2 TYP=5 |
|     | 410   | LEAR | 47 GB  | 0817.6        | 0818.0                     | .5                | 61.0                      |      |     | QL=6 ST=2 TYP=5 |
|     | 610   | LEAR | 8 S    | 0817.6        | 0818.0                     | .5                | 22.0                      |      |     | QL=6 ST=2 TYP=3 |
|     | 430   | KRAK | 45 C   | 0910.0        | 0911.5                     | 4.0               | 16.0                      | 4.0  |     |                 |
|     | 430   | KRAK |        | 0910.0        | 0913.0                     |                   | 15.0                      |      |     |                 |
|     | 950   | GORK | 21 GRF | 0917.0E       | 1041.5                     | 164.0D            | 10.6                      |      |     |                 |
|     | 650   | GORK | 21 GRF | 1019.4        | 1114.6                     | 102.0D            | 5.0                       | 2.5  |     |                 |
|     | 9500  | POTS | 20 GRF | 1022.0        | 1047.0                     | 93.0              | 14.0                      |      |     |                 |
|     | 1470  | POTS | 29 PBI | 1025.5        | 1028.7                     | 95.0              | 24.0                      |      |     |                 |
|     | 3100  | GRIM | 3 S    | 1026.0        | 1029.0                     | 74.0D             | 79.0                      | 26.0 |     |                 |
|     | 808   | ONDR | 4 S/F  | 1026.5        | 1029.0                     | 5.0               | 20.0                      | 9.0  |     |                 |
|     | 950   | GORK | 4 S/F  | 1027.2        | 1028.9                     | 2.9               | 17.6                      |      |     |                 |
|     | 2950  | GORK | 21 GRF | 1027.5        | 1057.0                     | 93.0              | 8.5                       |      |     |                 |
|     | 536   | ONDR | 40 F   | 1027.5        | 1110.0                     | 42.5              | 69.0                      |      |     |                 |
|     | 650   | GORK | 46 C   | 1027.6        | 1028.1                     | 1.3               | 7.0                       |      |     |                 |
|     | 9100  | GORK | 21 GRF | 1027.8        | 1056.0                     | 89.0              | 15.0                      |      |     |                 |
|     | 6100  | KISV | 22 GRF | 1027.8        | 1104.0                     | 136.0             | 10.0                      |      |     |                 |
|     | 3000  | POTS | 29 PBI | 1028.0        | 1029.1                     | 45.0              | 17.0                      |      |     |                 |
|     | 2950  | GORK | 4 S/F  | 1028.1        | 1028.7                     | 4.4               | 15.5                      |      |     |                 |

# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

13  
Apr 84

APRIL 1984

| Day | Freq  | Sta  | Type   | Start<br>(UT) | Time of<br>Maximum<br>(UT) | Duration<br>(Min) | Flux Density<br>Peak<br>(10 <sup>-22</sup> W/m <sup>2</sup> Hz) | Mean    | Int | Remarks         |
|-----|-------|------|--------|---------------|----------------------------|-------------------|-----------------------------------------------------------------|---------|-----|-----------------|
| 06  | 9100  | GORK | 1 S    | 1123.2        | 1123.4                     | .6                | 7.0                                                             | 3.5     |     |                 |
|     | 6100  | KISV | 2 S/F  | 1123.3        | 1123.5                     | 1.0               | 4.0                                                             |         |     |                 |
|     | 6100  | KISV | 1 S    | 1214.3        | 1214.9                     | 2.0               | 3.0                                                             |         |     |                 |
|     | 430   | KRAK | 41 F   | 1228.3        | 1231.5                     | 9.0               | 17.0                                                            |         |     |                 |
|     | 430   | KRAK |        | 1228.3        | 1234.8                     |                   | 24.0                                                            |         |     |                 |
|     | 410   | SGMR | 8 S    | 1254.8        | 1254.8                     | .3                | 22.0                                                            |         |     | QL=6 ST=2 TYP=3 |
|     | 245   | SGMR | 8 S    | 1254.8        | 1255.0                     | 1.2               | 42.0                                                            |         |     | QL=5 ST=2 TYP=3 |
|     | 2800  | OTTA | 20 GRF | 1318.0        | 1325.0                     | 30.0              | 2.0                                                             | 1.0     |     |                 |
|     | 2800  | OTTA | 20 GRF | 1640.0        | 1715.0                     | 125.0             | 3.0                                                             | 2.0     |     |                 |
|     | 100   | HIRA | 46 C   | 2105.4        | 2106.6                     | 11.5              | 1100.0                                                          | 40.0    |     |                 |
|     | 2800  | OTTA | 46F C  | 2106.0        | 2111.0                     | 15.0              | 4.8                                                             | 1.9     |     |                 |
|     | 200   | HIRA | 46 C   | 2106.5        | 2106.7                     | .9                | 220.0                                                           | 75.0    |     | MR              |
|     | 2800  | OTTA | 240AR  | 2140.0        | 2210.0                     | 30.0              | 4.8                                                             | 1.4     |     |                 |
|     | 500   | HIRA | 42 SER | 2150.5        | 2151.7                     | 19.3              | 170.0                                                           |         |     | WR              |
|     | 200   | HIRA | 46 C   | 2151.4        | 2152.3                     | 1.5               | 80.0                                                            | 41.0    |     | WR              |
|     | 610   | PALE | 47 GB  | 2151.6        | 2152.0                     | 2.9               | 94.0                                                            |         |     | QL=6 ST=2 TYP=5 |
|     | 410   | PALE | 47 GB  | 2151.8        | 2152.0                     | .5                | 219.0                                                           |         |     | QL=6 ST=2 TYP=5 |
|     | 245   | PALE | 47 GB  | 2152.5        | 2152.8                     | 10.8              | 81.0                                                            |         |     | QL=1 ST=2 TYP=5 |
|     | 1000  | TYKW | 45 C   | 2153.0        | 2153.6                     | 1.0               | 9.0                                                             | 1.0     |     |                 |
|     | 100   | HIRA | 42 SER | 2153.6        | 2157.7                     | 17.0              | 630.0                                                           |         |     |                 |
|     | 200   | HIRA | 46 C   | 2156.0        | 2200.7                     | 14.3              | 405.0                                                           | 114.0   |     | WR              |
|     | 9400  | TYKW | 20 GRF | 2157.0        | 2220.0                     | 100.0             | 5.0                                                             | 2.5     |     |                 |
|     | 3750  | TYKW | 21 GRF | 2157.0        | 2230.0                     | 230.0             | 6.0                                                             | 2.5     |     |                 |
|     | 1000  | TYKW | 45 C   | 2158.0        | 2158.1                     | 13.0              | 12.0                                                            | 3.0     |     |                 |
|     | 2800  | OTTA | 1 S    | 2158.0        | 2202.0                     | 8.0               | 2.4                                                             | 1.4     |     |                 |
|     | 2000  | TYKW | 5 S    | 2159.0        | 2201.7                     | 12.0              | 6.0                                                             | 2.0     |     |                 |
|     | 208   | VORO | 3 S    | 2205.0        | 2205.0                     | 6.0               | 200.0D                                                          |         |     |                 |
|     | 1000  | TYKW | 5 S    | 2219.0        | 2219.7                     | 3.0               | 2.0                                                             | 0.7     |     |                 |
|     | 2695  | PENT | 1 S    | 2343.0        | 2344.0                     | 2.0               | 1.8                                                             | 0.7     |     |                 |
|     | 610   | PALE | 8 S    | 2343.6        | 2343.6                     | .4                | 45.0                                                            |         |     | QL=6 ST=2 TYP=3 |
|     | 500   | HIRA | 8 S    | 2343.6        | 2343.9                     | .5                | 22.0                                                            |         |     | 0               |
| 07  | 410   | LEAR | 43 NS  | 0100.0        | 0852.0                     | 542.0D            | 46.0                                                            |         |     | QL=6 ST=2 TYP=1 |
|     | 200   | GORK | 44 NS  | 0359.0E       |                            | 403.0D            |                                                                 | 5.0     |     |                 |
|     | 260   | ONDR | 44 NS  | 0540.0E       |                            | 585.0D            | 54.0                                                            |         |     |                 |
|     | 127   | TORN | 44 NS  | 0900.0E       |                            | 360.0D            |                                                                 |         |     | V=1, DISTURBED  |
|     | 245   | SGMR | 44 NS  | 1036.0E       | 1356.6                     | 551.0D            | 300.0                                                           |         |     | QL=6 ST=2 TYP=1 |
|     | 245   | PALE | 43 NS  | 1636.0        | 0249.3                     | 684.0D            | 130.0                                                           |         |     | QL=6 ST=2 TYP=1 |
|     | 245   | LEAR | 43 NS  | 2250.0        | 0609.8                     | 671.0D            | 139.0                                                           |         |     | QL=6 ST=2 TYP=1 |
|     | 3750  | TYKW | 20 GRF | 0025.0        | 0040.0                     | 70.0              | 1.5                                                             | 0.7     |     |                 |
|     | 500   | HIRA | 27 RF  | 0118.0        | 0130.6                     | 40.0              | 7.0                                                             | 3.0     |     | WR              |
|     | 500   | HIRA | 6 S    | 0201.5        | 0201.8                     | 1.0               | 10.0                                                            | 4.0     |     | WR              |
|     | 3750  | TYKW | 45 C   | 0245.0        | 0247.9                     | 6.0               | 100.0                                                           | 30.0    |     |                 |
|     | 2695  | LEAR | 4 S/F  | 0245.5        | 0248.5                     | 5.5               | 45.0                                                            |         |     | QL=6 ST=2 TYP=3 |
|     | 100   | HIRA | 48 C   | 0245.8        | 0249.0U                    | 13.0              | 1000.0D                                                         | 1250.0D |     |                 |
|     | 1000  | TYKW | 45 C   | 0246.0        | 0247.4                     | 7.0               | 16.0                                                            | 2.5     |     |                 |
|     | 9400  | TYKW | 45 C   | 0246.0        | 0247.4                     | 7.0               | 272.0                                                           | 50.0    |     |                 |
|     | 2000  | TYKW | 45 C   | 0246.0        | 0247.5                     | 7.0               | 21.0                                                            | 5.0     |     |                 |
|     | 1415  | LEAR | 4 S/F  | 0246.0        | 0247.6                     | 10.0              | 15.0                                                            |         |     | QL=6 ST=2 TYP=3 |
|     | 8800  | LEAR | 47 GB  | 0246.0        | 0247.6                     | 14.0              | 250.0                                                           |         |     | QL=6 ST=2 TYP=5 |
|     | 4995  | LEAR | 47 GB  | 0246.1        | 0248.0                     | 13.9              | 169.0                                                           |         |     | QL=6 ST=2 TYP=5 |
|     | 500   | HIRA | 7 C    | 0246.4        | 0247.0                     | 2.7               | 118.0                                                           | 15.0    |     | WR              |
|     | 17000 | NOBE | 7 C    | 0246.4        | 0247.5                     | 4.8               | 140.0                                                           |         |     | 0               |
|     | 35000 | NOBE | 7 C    | 0246.4        | 0247.5                     | 2.4               | 85.0                                                            |         |     | 0               |
|     | 80000 | NOBE | 1 S    | 0246.4        | 0247.5                     | 13.0              | 27.0                                                            |         |     |                 |
|     | 8800  | PALE | 47 GB  | 0246.5        | 0247.5                     | 4.6               | 310.0                                                           |         |     | QL=6 ST=2 TYP=5 |
|     | 15400 | LEAR | 47 GB  | 0246.5        | 0247.6                     | 13.5              | 169.0                                                           |         |     | QL=6 ST=2 TYP=5 |
|     | 4995  | PALE | 47 GB  | 0246.5        | 0247.8                     | 2.8               | 169.0                                                           |         |     | QL=6 ST=2 TYP=5 |
|     | 245   | PALE | 47 GB  | 0246.6        | 0247.1                     | 5.2               | 280.0                                                           |         |     | QL=6 ST=2 TYP=5 |
|     | 2695  | PALE | 4 S/F  | 0246.6        | 0248.3                     | 2.5               | 41.0                                                            |         |     | QL=6 ST=2 TYP=3 |
|     | 200   | HIRA | 46 C   | 0246.7        | 0249.0                     | 12.0              | 3150.0                                                          | 160.0   |     | WR              |
|     | 245   | LEAR | 47 GB  | 0246.8        | 0247.3                     | 6.2               | 280.0                                                           |         |     | QL=6 ST=2 TYP=5 |
|     | 15400 | PALE | 47 GB  | 0246.8        | 0247.3                     | 5.3               | 189.0                                                           |         |     | QL=6 ST=2 TYP=5 |
|     | 1415  | PALE | 8 S    | 0246.8        | 0247.5                     | 1.0               | 19.0                                                            |         |     | QL=6 ST=2 TYP=3 |
|     | 410   | LEAR | 47 GB  | 0246.8        | 0248.0                     | 3.0               | 119.0                                                           |         |     | QL=6 ST=2 TYP=5 |
|     | 610   | LEAR | 47 GB  | 0246.8        | 0248.0                     | 6.2               | 87.0                                                            |         |     | QL=6 ST=2 TYP=5 |
|     | 410   | PALE | 47 GB  | 0247.8        | 0247.8                     | .7                | 160.0                                                           |         |     | QL=6 ST=2 TYP=5 |
|     | 35000 | NOBE | 29 PBI | 0248.8        | 0248.8                     | 7.0               | 17.0                                                            |         |     | 0               |
|     | 3750  | TYKW | 29 PBI | 0251.0        |                            | 9.0               | 2.0                                                             | 1.0     |     |                 |
|     | 17000 | NOBE | 29 PBI | 0251.2        | 0251.2                     | 11.0              | 19.0                                                            |         |     | 0               |
|     | 9400  | TYKW | 29 PBI | 0253.0        |                            | 17.0              | 10.0                                                            | 3.0     |     |                 |

14  
Apr 84

# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

APRIL 1984

| Day | Freq | Sta  | Type   | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density Peak (10 <sup>-22</sup> W/m <sup>2</sup> Hz) | Mean  | Int | Remarks         |
|-----|------|------|--------|------------|----------------------|----------------|-----------------------------------------------------------|-------|-----|-----------------|
| 07  | 3750 | TYKW | 21 GRF | 0350.0     | 0430.0               | 90.0           | 1.5                                                       | 0.7   |     |                 |
|     | 9100 | GORK | 20 GRF | 0421.0     | 0438.9               | 32.5           | 7.0                                                       |       |     |                 |
|     | 3750 | TYKW | 5 S    | 0437.0     | 0439.0               | 7.0            | 1.5                                                       | 0.5   |     |                 |
|     | 204  | IZMI | 41 F   | 0709.0     | 0709.6               | 1.0            | 200.0                                                     |       |     |                 |
|     | 536  | ONDR | 40 F   | 0837.0     | 0915.0               | 55.0           | 35.0                                                      |       |     |                 |
| 08  | 200  | HIRA | 43 NS  | 0238.0     | 0300.0               | 162.0          | 55.0                                                      | 5.0   |     | KR              |
|     | 410  | LEAR | 43 NS  | 0240.0     | 0907.1               | 441.00         | 48.0                                                      |       |     | QL=6 ST=2 TYP=1 |
|     | 208  | VORO | 43 NS  | 0307.0     |                      | 53.00          |                                                           | 21.0  |     |                 |
|     | 200  | GORK | 44 NS  | 0359.0E    |                      | 403.00         |                                                           | 10.0  |     |                 |
|     | 260  | ONDR | 44 NS  | 0700.0E    |                      | 410.00         | 71.0                                                      |       |     |                 |
|     | 100  | GORK | 44 NS  | 0715.0E    |                      | 208.00         |                                                           | 10.0  |     |                 |
|     | 204  | IZMI | 43 NS  | 0900.0     |                      | 150.0          | 20.0                                                      |       |     |                 |
|     | 127  | TORN | 44 NS  | 0920.0E    | 1103.1               | 210.00         | 50.0                                                      | 5.0   |     | V=1             |
|     | 245  | SGMR | 43 NS  | 1034.0     | 1549.1               | 802.00         | 690.0                                                     |       |     | QL=6 ST=2 TYP=1 |
|     | 245  | PALE | 43 NS  | 1650.0     | 1849.1               | 670.00         | 260.0                                                     |       |     | QL=6 ST=2 TYP=1 |
|     | 245  | LEAR | 43 NS  | 2251.0     | 0806.5               | 669.00         | 40.0                                                      |       |     | QL=6 ST=2 TYP=1 |
|     | 500  | HIRA | 27 RF  | 0139.3     | 0255.9               | 189.0          | 10.0                                                      | 2.0   |     | WR              |
|     | 410  | LEAR | 4 S/F  | 0219.8     | 0219.8               | 30.0           | 16.0                                                      |       |     | QL=6 ST=2 TYP=3 |
|     | 245  | LEAR | 47 GB  | 0234.8     | 0236.0               | 1.5            | 86.0                                                      |       |     | QL=6 ST=3 TYP=5 |
|     | 410  | LEAR | 8 S    | 0236.1     | 0236.5               | .9             | 18.0                                                      |       |     | QL=6 ST=2 TYP=5 |
|     | 9400 | TYKW | 32 ABS | 0341.0     | 0344.0               | 8.0            | -4.0                                                      | -2.0  |     |                 |
|     | 3750 | TYKW | 32 ABS | 0341.0     | 0345.0               | 10.0           | -4.0                                                      | -2.0  |     |                 |
|     | 2000 | TYKW | 32 ABS | 0341.0     | 0346.0               | 10.0           | -1.5                                                      | -0.7  |     |                 |
|     | 3750 | TYKW | 32 ABS | 0353.0     | 0403.0               | 18.0           | -2.0                                                      | -1.0  |     |                 |
|     | 2000 | TYKW | 32 ABS | 0354.0     | 0405.0               | 17.0           | -1.5                                                      | -0.7  |     |                 |
|     | 3750 | TYKW | 32 ABS | 0416.0     | 0437.0               | 30.0           | -1.0                                                      | -0.5  |     |                 |
|     | 200  | HIRA | 24 R   | 0712.0     | 0753.0               | 105.00         | 32.0                                                      | 8.0   |     | WR              |
|     | 200  | GORK | 4 S/F  | 0724.2     | 0727.0               | 5.5            | 160.0                                                     |       |     |                 |
|     | 113  | POTS | 4 S/F  | 0724.3     | 0727.2               | 5.7            | 2800.0                                                    | 50.0  |     | III             |
|     | 204  | IZMI | 41 F   | 0725.0     | 0727.1               | 3.5            | 250.0                                                     |       |     |                 |
|     | 2695 | LEAR | 4 S/F  | 0725.0     | 0727.1               | 4.3            | 4.0                                                       |       |     | QL=6 ST=2 TYP=3 |
|     | 200  | HIRA | 46 C   | 0725.3     | 0726.8               | 2.8            | 235.0                                                     | 16.0  |     | WR              |
|     | 100  | GORK | 41 F   | 0725.6     | 0725.7               | 2.0            | 95.0                                                      |       |     |                 |
|     | 100  | GORK |        | 0725.6     | 0727.0               |                | 380.0                                                     |       |     |                 |
|     | 1415 | LEAR | 4 S/F  | 0726.1     | 0727.3               | 3.2            | 5.0                                                       |       |     | QL=6 ST=2 TYP=3 |
|     | 500  | HIRA | 45 C   | 0726.3     | 0726.8               | 3.0            | 10.0                                                      | 4.0   |     | 0               |
|     | 410  | LEAR | 4 S/F  | 0726.3     | 0727.1               | 3.0            | 11.0                                                      |       |     | QL=6 ST=2 TYP=3 |
|     | 950  | GORK | 4 S/F  | 0726.4     | 0727.1               | 1.6            | 36.0                                                      |       |     |                 |
|     | 808  | ONDR | 46 C   | 0726.5     | 0727.0               | 2.0            | 59.0                                                      |       |     |                 |
|     | 650  | GORK | 46 C   | 0726.5     | 0727.0               | 2.2            | 17.0                                                      | 7.0   |     |                 |
|     | 610  | LEAR | 4 S/F  | 0726.5     | 0727.1               | 3.0            | 20.0                                                      |       |     | QL=6 ST=2 TYP=3 |
|     | 1000 | TYKW | 5 S    | 0726.5     | 0727.3               | 2.0            | 45.0                                                      | 9.0   |     |                 |
|     | 245  | LEAR | 47 GB  | 0726.5     | 0727.3               | 2.8            | 52.0                                                      |       |     | QL=6 ST=2 TYP=5 |
|     | 650  | GORK |        | 0726.5     | 0727.5               |                | 17.0                                                      |       |     |                 |
|     | 2000 | TYKW | 5 S    | 0727.2     | 0727.7               | 1.0            | 4.0                                                       | 1.0   |     |                 |
|     | 650  | GORK | 1 S    | 0728.8     | 0729.2               | 1.1            | 4.5                                                       | 2.0   |     |                 |
|     | 430  | KRAK | 8 S    | 1020.0     | 1020.2               | .4             | 5.0                                                       |       |     |                 |
|     | 204  | IZMI | 7 C    | 1145.6     | 1148.5               | 5.0            | 70.0                                                      | 35.0  |     |                 |
|     | 430  | KRAK | 8 S    | 1153.0     | 1153.0               | .4             | 10.0                                                      |       |     |                 |
| 09  | 260  | ONDR | 44 NS  | 0617.0E    |                      | 473.00         | 51.0                                                      |       |     |                 |
|     | 200  | HIRA | 44 NS  | 2012.0E    | 0100.0               | 420.00         | 10.0                                                      | 3.0   |     | 0               |
|     | 3750 | TYKW | 20 GRF | 0413.0     | 0500.0               | 105.0          | 3.0                                                       | 1.5   |     |                 |
|     | 2000 | TYKW | 20 GRF | 0415.0     | 0431.0               | 105.0          | 2.0                                                       | 1.0   |     |                 |
|     | 9400 | TYKW | 20 GRF | 0420.0     | 0500.0               | 100.0          | 3.0                                                       | 1.5   |     |                 |
|     | 610  | LEAR | 4 S/F  | 0719.3     | 0720.6               | 3.5            | 13.0                                                      |       |     | QL=1 ST=2 TYP=3 |
|     | 1415 | LEAR | 4 S/F  | 0719.3     | 0720.6               | 3.3            | 11.0                                                      |       |     | QL=1 ST=2 TYP=3 |
|     | 410  | LEAR | 4 S/F  | 0719.3     | 0721.8               | 3.5            | 130.0                                                     |       |     | QL=1 ST=2 TYP=3 |
|     | 245  | LEAR | 4 S/F  | 0719.5     | 0722.1               | 3.3            | 44.0                                                      |       |     | QL=1 ST=2 TYP=3 |
|     | 234  | POTS | 4 S/F  | 0823.2     | 0823.6               | .8             | 350.0                                                     | 80.0  |     |                 |
|     | 3100 | GRIM | 20 GRF | 1102.5     | 1117.5               | 58.0           | 23.0                                                      | 8.0   |     |                 |
|     | 234  | POTS | 4 S/F  | 1253.7     | 1253.7               | .5             | 750.0                                                     | 250.0 |     |                 |
| 10  | 260  | ONDR | 44 NS  | 0557.0E    |                      | 438.00         | 28.0                                                      |       |     |                 |
|     | 500  | HIRA | 41 F   | 0037.6     | 0040.4               | 8.0            | 4.0                                                       | 3.0   |     | 0               |
|     | 500  | HIRA | 6 S    | 0044.3     | 0044.5               | 1.0            | 11.0                                                      | 7.0   |     | 0               |
|     | 3100 | GRIM | 3 S    | 1020.0     | 1023.0               | 10.0           | 65.0                                                      | 21.0  |     |                 |
|     | 3000 | POTS | 40 F   | 1020.0     | 1023.0               | 9.0            | 7.0                                                       |       |     |                 |
|     | 950  | GORK | 1 S    | 1020.0     | 1023.6               | 4.0            | 9.0                                                       |       |     |                 |
|     | 1470 | POTS | 4 S/F  | 1020.5     | 1023.9               | 4.5            | 14.0                                                      |       |     |                 |

# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

15  
Apr 84

APRIL 1984

| Day | Freq  | Sta  | Type   | Start<br>(UT) | Time of<br>Maximum<br>(UT) | Duration<br>(Min) | Flux Density                                    |      | Int | Remarks         |
|-----|-------|------|--------|---------------|----------------------------|-------------------|-------------------------------------------------|------|-----|-----------------|
|     |       |      |        |               |                            |                   | Peak<br>(10 <sup>-22</sup> W/m <sup>2</sup> Hz) | Mean |     |                 |
| 10  | 6100  | KISV | 20 GRF | 1021.0        | 1022.0                     | 10.0              | 3.0                                             |      |     |                 |
|     | 113   | POTS | 4 S/F  | 1021.0        | 1021.7                     | 3.6               | 100.0                                           | 15.0 |     |                 |
|     | 2950  | GORK | 1 S    | 1021.2        | 1023.0                     | 5.8               | 4.9                                             | 2.4  |     |                 |
|     | 127   | TORN | 4 S/F  | 1021.3        | 1021.8                     | 1.5               | 140.0                                           | 70.0 |     |                 |
|     | 9100  | GORK | 20 GRF | 1021.5        | 1026.1                     | 59.0              | 7.0                                             |      |     |                 |
|     | 33    | UPIC | 45 C   | 1021.6        | 1024.0                     | 5.8               |                                                 |      |     |                 |
|     | 29    | UPIC | 45 C   | 1021.6        | 1024.0                     | 3.6               |                                                 |      |     |                 |
| 11  | 260   | ONDR | 44 NS  | 0757.0E       |                            | 493.0D            | 12.0                                            |      |     |                 |
|     | 2000  | TYKW | 5 S    | 0029.0        | 0031.5                     | 8.0               | 6.0                                             | 2.0  |     |                 |
|     | 1000  | TYKW | 45 C   | 0029.0        | 0035.0                     | 7.0               | 110.0                                           | 2.0  |     |                 |
|     | 3750  | TYKW | 5 S    | 0029.5        | 0031.1                     | 3.5               | 6.0                                             | 2.5  |     |                 |
|     | 2695  | FENT | 1 S    | 0030.0        | 0031.0                     | 7.0               | 7.0                                             | 2.0  |     |                 |
|     | 3750  | TYKW | 29 FBI | 0033.0        |                            | 7.0               | 2.0                                             | 1.0  |     |                 |
|     | 3750  | TYKW | 20 GRF | 0043.0        | 0055.0                     | 30.0              | 1.0                                             | 0.5  |     |                 |
|     | 2000  | TYKW | 45 C   | 0551.5        | 0551.9                     | 2.5               | 5.0                                             | 1.0  |     |                 |
|     | 29    | UPIC | 45 C   | 0800.2        | 0801.1                     |                   | 2.8                                             |      |     |                 |
|     | 33    | UPIC | 45 C   | 0800.3        | 0800.7                     | 2.3               |                                                 |      |     |                 |
|     | 29    | UPIC | 45 C   | 1017.1        | 1018.3                     | 1.8               |                                                 |      |     |                 |
|     | 33    | UPIC | 45     | 1017.5        | 1018.0                     | 1.3               |                                                 |      |     |                 |
|     | 204   | IZMI | 4 S/F  | 1033.1        | 1033.4                     | .3                | 73.0                                            | 35.0 |     |                 |
|     | 430   | KRAK | 4 S/F  | 1035.0        | 1037.8                     | 8.5               | 18.0                                            | 2.0  |     |                 |
|     | 430   | KRAK | 45 C   | 1228.0        | 1231.5                     | 9.0               | 150.0                                           | 16.0 |     |                 |
|     | 430   | KRAK | 45 C   | 1243.8        | 1246.8                     | 9.0               | 64.0                                            | 10.0 |     |                 |
|     | 536   | ONDR | 8 S    | 1358.5        | 1358.5                     | .3                | 4.0                                             |      |     |                 |
|     | 2800  | OTTA | 20 GRF | 1505.0        | 1530.0                     | 80.0              | 2.2                                             | 1.1  |     |                 |
|     | 2800  | OTTA | 20 GRF | 1835.0        | 1950.0                     | 125.0             | 2.0                                             | 1.0  |     |                 |
|     | 500   | HIRA | 41 F   | 2125.4        | 2128.2                     | 22.3              | 53.0                                            | 13.0 | 0   |                 |
| 12  | 200   | HIRA | 44 NS  | 2007.0E       | 0756.0                     | 780.0D            | 16.0                                            | 7.0  | ML  |                 |
|     | 208   | VORO | 44 NS  | 2200.0E       |                            | 360.0D            |                                                 | 10.0 |     |                 |
|     | 245   | LEAR | 43 NS  | 2254.5        | 0420.8                     | 721.5D            | 139.0                                           |      |     | QL=6 ST=2 TYP=1 |
|     | 245   | PALE | 8 S    | 0023.3        | 0023.3                     | .5                | 24.0                                            |      |     | QL=6 ST=2 TYP=3 |
|     | 245   | LEAR | 4 S/F  | 0115.8        | 0118.6                     | 4.0               | 17.0                                            |      |     | QL=6 ST=2 TYP=3 |
|     | 245   | LEAR | 4 S/F  | 0210.6        | 0211.1                     | 3.2               | 27.0                                            |      |     | QL=6 ST=2 TYP=3 |
|     | 2902  | YUNN | 5 S    | 0352.5        | 0353.7                     | 3.3               | 57.0                                            |      |     |                 |
|     | 3750  | TYKW | 20 GRF | 0420.0        | 0425.0                     | 50.0              | 2.0                                             | 1.0  |     |                 |
|     | 9400  | TYKW | 20 GRF | 0535.0        | 0540.0                     | 35.0              | 4.0                                             | 1.5  |     |                 |
|     | 3750  | TYKW | 5 S    | 0535.0        | 0542.0                     | 20.0              | 2.0                                             | 0.7  |     |                 |
|     | 9100  | GORK | 20 GRF | 0536.0        | 0541.3                     | 10.5              | 5.0                                             |      |     |                 |
|     | 245   | LEAR | 8 S    | 0558.1        | 0558.3                     | .2                | 11.0                                            |      |     | QL=5 ST=2 TYP=3 |
|     | 2950  | GORK | 20 GRF | 0657.0        | 1136.0                     | 300.0D            | 5.0                                             |      |     |                 |
|     | 430   | KRAK | 8 S    | 0810.5        | 0810.5                     | .4                | 19.0                                            |      |     |                 |
|     | 9100  | GORK | 21 GRF | 0938.8        | 1155.8                     | 145.0D            | 9.0                                             |      |     |                 |
|     | 650   | GORK | 20 GRF | 1015.7        | 1137.0                     | 107.0D            | 3.0                                             |      |     |                 |
|     | 29    | UPIC | 1 S    | 1042.4        | 1042.5                     | .4                |                                                 |      |     |                 |
|     | 33    | UPIC | 3 S    | 1042.6        | 1042.6                     | .5                |                                                 |      |     |                 |
|     | 9100  | GORK | 1 S    | 1135.2        | 1135.9                     | .7                | 3.5                                             | 1.7  |     |                 |
|     | 245   | SGMR | 47 GB  | 1625.5        | 1625.8                     | 1.1               | 74.0                                            |      |     | QL=6 ST=2 TYP=5 |
|     | 8800  | SGMR | 8 S    | 1712.0        | 1713.0                     |                   | 21.0                                            |      |     | QL=6 ST=1 TYP=3 |
|     | 2800  | OTTA | 1 S    | 1712.5        | 1712.8                     | 1.5               | 7.2                                             | 2.4  |     |                 |
|     | 15400 | SGMR | 8 S    | 1712.8        | 1714.0                     |                   | 13.0                                            |      |     | QL=6 ST=1 TYP=3 |
|     | 4995  | PALE | 8 S    | 1713.0        | 1713.1                     | .3                | 15.0                                            |      |     | QL=6 ST=2 TYP=3 |
|     | 2695  | PALE | 8 S    | 1713.0        | 1713.1                     | .3                | 16.0                                            |      |     | QL=6 ST=2 TYP=3 |
|     | 2800  | OTTA | 20 GRF | 1853.0        | 1858.0                     | 35.0              | 2.0                                             | 0.8  |     |                 |
|     | 245   | LEAR | 8 S    | 2254.5        | 2255.1                     | 1.8               | 28.0                                            |      |     | QL=5 ST=2 TYP=3 |
|     | 245   | PALE | 8 S    | 2336.1        | 2336.1                     | .2                | 40.0                                            |      |     | QL=6 ST=2 TYP=3 |
| 13  | 100   | GORK | 44 NS  | 0344.0E       |                            | 503.0D            |                                                 | 5.0  |     |                 |
|     | 200   | GORK | 44 NS  | 0355.0E       |                            | 493.0D            |                                                 | 15.0 |     |                 |
|     | 204   | IZMI | 43 NS  | 0600.0        |                            | 360.0             | 25.0                                            |      |     |                 |
|     | 260   | ONDR | 44 NS  | 0600.0E       |                            | 495.0D            | 8.0                                             |      |     |                 |
|     | 127   | TORN | 44 NS  | 0710.0E       | 1144.6                     | 470.0D            | 70.0                                            | 18.0 | V=1 |                 |
|     | 536   | ONDR | 43 NS  | 0710.0        |                            | 360.0             | 5.0                                             |      |     |                 |
|     | 430   | KRAK | 43 NS  | 0746.0        | 1240.0                     | 350.0D            | 8.0                                             |      |     |                 |
|     | 245   | SGMR | 43 NS  | 1026.0        | 1404.8                     | 756.0D            | 239.0                                           |      |     | QL=6 ST=2 TYP=1 |
|     | 410   | SGMR | 43 NS  | 1120.0        | 2221.1                     | 702.0D            | 130.0                                           |      |     | QL=6 ST=2 TYP=1 |
|     | 100   | HIRA | 44 NS  | 2006.0E       | 0825.0                     | 780.0D            | 490.0                                           | 95.0 |     |                 |
|     | 200   | HIRA | 44 NS  | 2006.0E       | 0826.0                     | 780.0D            | 35.0                                            | 12.0 | ML  |                 |
|     | 208   | VORO | 44 NS  | 2200.0E       |                            | 360.0D            |                                                 | 15.0 |     |                 |
|     | 245   | LEAR | 43 NS  | 2253.0        | 0413.6                     | 662.0D            | 62.0                                            |      |     | QL=6 ST=2 TYP=1 |

16  
Apr 84

# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

APRIL 1984

| Day | Freq | Sta  | Type   | Start<br>(UT) | Time of<br>Maximum<br>(UT) | Duration<br>(Min) | Flux Density<br>Peak<br>(10 <sup>-22</sup> W/m <sup>2</sup> Hz) | Mean<br>(10 <sup>-22</sup> W/m <sup>2</sup> Hz) | Int | Remarks         |
|-----|------|------|--------|---------------|----------------------------|-------------------|-----------------------------------------------------------------|-------------------------------------------------|-----|-----------------|
| 13  | 3750 | TYKH | 20 GRF | 0020.0        | 0100.0                     | 130.0             | 1.5                                                             | 0.7                                             |     |                 |
|     | 245  | PALE | 4 S/F  | 0028.3        | 0030.8                     | 2.8               | 38.0                                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 245  | LEAR | 47 GB  | 0216.5        | 0217.3                     | 1.1               | 180.0                                                           |                                                 |     | QL=6 ST=2 TYP=5 |
|     | 245  | PALE | 47 GB  | 0216.6        | 0217.1                     | .7                | 119.0                                                           |                                                 |     | QL=6 ST=2 TYP=5 |
|     | 950  | GORK | 20 GRF | 0344.0U       | 0357.7                     | 27.0D             | 10.0                                                            |                                                 |     |                 |
|     | 3750 | TYKH | 21 GRF | 0450.0        | 0513.0                     | 180.0             | 3.0                                                             | 1.5                                             |     |                 |
|     | 2000 | TYKH | 20 GRF | 0455.0        | 0513.0                     | 130.0             | 2.0                                                             | 1.0                                             |     |                 |
|     | 9400 | TYKH | 20 GRF | 0500.0        | 0512.0                     | 45.0              | 4.0                                                             | 2.0                                             |     |                 |
|     | 3750 | TYKH | 5 S    | 0502.0        | 0503.3                     | 6.0               | 1.5                                                             | 0.7                                             |     |                 |
|     | 9100 | GORK | 20 GRF | 0509.0        | 0512.2                     | 11.4              | 3.0                                                             |                                                 |     |                 |
|     | 245  | LEAR | 4 S/F  | 0728.8        | 0729.8                     | 3.7               | 18.0                                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 410  | LEAR | 8 S    | 0730.1        | 0730.3                     | .4                | 34.0                                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 430  | KRAK | 45 C   | 0910.5        | 0914.5                     | 4.5               | 80.0                                                            | 9.0                                             |     |                 |
|     | 430  | KRAK | 46 C   | 0928.2        | 0928.6                     | 5.0               | 190.0                                                           | 3.0                                             |     |                 |
|     | 430  | KRAK | 8 S    | 1037.2        | 1037.5                     | .6                | 120.0                                                           |                                                 |     |                 |
|     | 2800 | OTTA | 20 GRF | 2005.0        | 2012.0                     | 35.0              | 2.2                                                             | 0.8                                             |     |                 |
|     | 2800 | OTTA | 20 GRF | 2150.0        | 2250.0                     | 210.0             | 5.4                                                             | 2.7                                             |     |                 |
|     | 3750 | TYKH | 21 GRF | 2155.0        | 2222.0                     | 120.0             | 3.0                                                             | 1.5                                             |     |                 |
|     | 2000 | TYKH | 20 GRF | 2200.0        | 2240.0                     | 110.0             | 2.0                                                             | 1.0                                             |     |                 |
|     | 500  | HIRA | 41 F   | 2217.3        | 2232.6                     | 21.0              | 7.0                                                             | 2.0                                             |     | WL              |
|     | 3750 | TYKH | 20 GRF | 2230.0        | 2250.0                     | 60.0              | 2.0                                                             | 1.0                                             |     |                 |
| 14  | 200  | GORK | 44 NS  | 0336.0E       |                            | 429.0D            |                                                                 | 20.0                                            |     |                 |
|     | 100  | GORK | 44 NS  | 0338.0E       |                            | 427.0D            |                                                                 | 80.0                                            |     |                 |
|     | 260  | ONDR | 44 NS  | 0516.0E       |                            | 630.0D            | 42.0                                                            |                                                 |     |                 |
|     | 204  | IZMI | 44 NS  | 0600.0E       |                            | 360.0D            | 40.0                                                            |                                                 |     |                 |
|     | 127  | TORN | 44 NS  | 0620.0E       |                            | 120.0D            |                                                                 | 120.0U                                          |     | V=1             |
|     | 245  | SGMR | 43 NS  | 1024.0        | 1716.1                     | 759.0D            | 6700.0                                                          |                                                 |     | QL=6 ST=2 TYP=1 |
|     | 245  | PALE | 43 NS  | 1645.0        | 2155.8                     | 675.0D            | 430.0                                                           |                                                 |     | QL=6 ST=2 TYP=1 |
|     | 100  | HIRA | 44 NS  | 2003.0E       | 0010.0                     | 785.0D            | 1300.0U                                                         | 220.0U                                          |     |                 |
|     | 200  | HIRA | 44 NS  | 2003.0E       | 0012.0                     | 785.0D            | 280.0                                                           | 80.0                                            |     | SL              |
|     | 208  | VORO | 44 NS  | 2200.0E       | 2232.0                     | 360.0D            | 180.0                                                           | 73.0                                            |     |                 |
|     | 245  | LEAR | 43 NS  | 2253.0        | 0018.3                     | 661.0D            | 320.0                                                           |                                                 |     | QL=6 ST=2 TYP=1 |
|     | 610  | LEAR | 43 NS  | 2253.0        | 0048.8                     | 661.0D            | 23.0                                                            |                                                 |     | QL=6 ST=2 TYP=1 |
|     | 410  | LEAR | 43 NS  | 2253.0        | 0114.3                     | 661.0D            | 56.0                                                            |                                                 |     | QL=6 ST=2 TYP=1 |
|     | 3750 | TYKH | 20 GRF | 0020.0        | 0045.0                     | 60.0              | 1.5                                                             | 0.7                                             |     |                 |
|     | 200  | HIRA | 46 C   | 0034.7        | 0034.9                     | 3.0               | 110.0                                                           | 23.0                                            |     | ML              |
|     | 3750 | TYKH | 5 S    | 0158.0        | 0158.2                     | 1.0               | 4.0                                                             | 1.0                                             |     |                 |
|     | 3750 | TYKH | 5 S    | 0359.0        | 0400.1                     | 6.0               | 2.5                                                             | 1.0                                             |     |                 |
|     | 410  | LEAR | 8 S    | 0811.6        | 0812.0                     | .5                | 16.0                                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 245  | LEAR | 8 S    | 0811.8        | 0812.0                     | .3                | 24.0                                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 430  | KRAK | 42 SER | 0821.8        | 0843.8                     | 38.0              | 20.0                                                            |                                                 |     |                 |
|     | 245  | LEAR | 8 S    | 0835.3        | 0835.8                     | 1.0               | 26.0                                                            |                                                 |     | QL=5 ST=2 TYP=3 |
|     | 410  | LEAR | 8 S    | 0835.5        | 0835.8                     | 1.3               | 35.0                                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 410  | LEAR | 8 S    | 0843.8        | 0844.5                     | 1.5               | 20.0                                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 410  | LEAR | 47 GB  | 0852.0        | 0858.6                     | 8.1               | 58.0                                                            |                                                 |     | QL=6 ST=3 TYP=5 |
|     | 245  | LEAR | 47 GB  | 0852.1        | 0856.3                     | 8.9               | 77.0                                                            |                                                 |     | QL=5 ST=2 TYP=5 |
|     | 430  | KRAK | 8 S    | 1020.2        | 1020.2                     | .6                | 32.0                                                            |                                                 |     |                 |
|     | 430  | KRAK | 8 S    | 1057.8        | 1057.8                     | .4                | 14.0                                                            |                                                 |     |                 |
|     | 430  | KRAK | 45 C   | 1213.8        | 1215.5                     | 3.0               | 200.0                                                           | 31.0                                            |     |                 |
|     | 410  | SGMR | 47 GB  | 1824.0        | 1824.1                     | .5                | 62.0                                                            |                                                 |     | QL=6 ST=2 TYP=5 |
| 15  | 100  | GORK | 44 NS  | 0315.0E       |                            | 441.0D            |                                                                 | 15.0                                            |     |                 |
|     | 200  | GORK | 44 NS  | 0316.0E       |                            | 440.0D            |                                                                 | 30.0                                            |     |                 |
|     | 204  | IZMI | 44 NS  | 0600.0E       |                            | 360.0D            | 60.0                                                            |                                                 |     |                 |
|     | 260  | ONDR | 44 NS  | 0650.0E       |                            | 433.0D            | 30.0                                                            |                                                 |     |                 |
|     | 29   | UPIC | 43 NS  | 0732.0        |                            | 478.0             |                                                                 |                                                 |     |                 |
|     | 245  | SGMR | 43 NS  | 1023.0        | 1548.8                     | 761.0D            | 680.0                                                           |                                                 |     | QL=6 ST=2 TYP=1 |
|     | 410  | SGMR | 43 NS  | 1419.6        | 1628.6                     | 524.4D            | 160.0                                                           |                                                 |     | QL=6 ST=2 TYP=1 |
|     | 610  | SGMR | 43 NS  | 1419.6        | 1628.6                     | 524.4D            | 77.0                                                            |                                                 |     | QL=6 ST=2 TYP=1 |
|     | 245  | PALE | 43 NS  | 1655.0        | 1741.3                     | 665.0D            | 370.0                                                           |                                                 |     | QL=6 ST=2 TYP=1 |
|     | 200  | HIRA | 44 NS  | 2002.0E       | 0641.0                     | 785.0D            | 340.0                                                           | 115.0                                           |     | SL              |
|     | 100  | HIRA | 44 NS  | 2002.0E       | 0822.0                     | 785.0D            | 2100.0U                                                         | 635.0U                                          |     |                 |
|     | 208  | VORO | 44 NS  | 2200.0E       |                            | 360.0D            |                                                                 | 48.0                                            |     |                 |
|     | 245  | LEAR | 43 NS  | 2253.0        | 0529.5                     | 661.0D            | 680.0                                                           |                                                 |     | QL=6 ST=2 TYP=1 |
|     | 610  | LEAR | 43 NS  | 2253.0        | 0532.3                     | 661.0D            | 86.0                                                            |                                                 |     | QL=6 ST=2 TYP=1 |
|     | 500  | HIRA | 27 RF  | 0000.0        | 0111.1                     | 120.0             | 8.0                                                             | 2.0                                             |     | WL              |
|     | 2000 | TYKH | 21 GRF | 0428.0        | 0500.0                     | 85.0              | 1.0                                                             | 0.5                                             |     |                 |
|     | 2000 | TYKH | 45 C   | 0430.0        | 0431.0                     | 6.0               | 2.0                                                             | 0.5                                             |     |                 |
|     | 3750 | TYKH | 20 GRF | 0430.0        | 0500.0                     | 80.0              | 2.0                                                             | 1.0                                             |     |                 |
|     | 1000 | TYKH | 45 C   | 0430.5        | 0430.9                     | 1.5               | 21.0                                                            | 2.0                                             |     |                 |

# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

17  
Apr 84

APRIL 1984

| Day | Freq  | Sta  | Type   | Start<br>(UT) | Time of<br>Maximum<br>(UT) | Duration<br>(Min) | Flux Density           |               | Int | Remarks         |
|-----|-------|------|--------|---------------|----------------------------|-------------------|------------------------|---------------|-----|-----------------|
|     |       |      |        |               |                            |                   | Peak<br>(10 -22<br>M/m | Mean<br>2 Hz) |     |                 |
| 15  | 2000  | TYKW | 5 S    | 0639.0        | 0642.5                     | 5.0               | 5.0                    | 1.5           |     |                 |
|     | 3750  | TYKW | 5 S    | 0640.0        | 0643.0                     | 20.0              | 2.0                    | 0.7           |     |                 |
|     | 2950  | GORK | 20 GRF | 0641.1        | 0642.2                     | 104.0             | 3.3                    | 1.5           |     |                 |
|     | 2000  | TYKW | 29 PBI | 0644.0        |                            | 20.0              | 1.0                    | 0.5           |     |                 |
|     | 3750  | TYKW | 20 GRF | 0725.0        | 0756.0                     | 70.00             | 2.0                    | 1.0           |     |                 |
|     | 2000  | TYKW | 20 GRF | 0725.0        | 0756.0                     | 70.0              | 2.0                    | 1.0           |     |                 |
|     | 1000  | TYKW | 5 S    | 0727.7        | 0728.0                     | 0.7               | 25.0                   | 3.0           |     |                 |
|     | 1000  | TYKW | 45 C   | 0729.0        | 0729.6                     | 1.0               | 83.0                   | 8.0           |     |                 |
|     | 33    | UPIC |        | 0732.0        |                            |                   |                        |               |     |                 |
|     | 204   | IZMI | 41 F   | 0933.0        | 0933.4                     | 3.5               | 1000.0                 |               |     |                 |
|     | 113   | POTS | 42 SER | 1233.0        | 1235.5                     | 3.5               | 1900.0                 | 20.0          |     |                 |
|     | 2800  | OTTA | 20 GRF | 1235.0        | 1315.0                     | 130.0             | 5.0                    | 2.8           |     |                 |
|     | 1470  | POTS | 4 S/F  | 1307.0        | 1307.5                     | 1.0               | 6.0                    |               |     |                 |
|     | 2800  | OTTA | 20 GRF | 1550.0        | 1620.0                     | 60.0              | 2.2                    | 1.1           |     |                 |
|     | 15400 | SGMR | 8 S    | 1644.0        | 1644.6                     | 1.1               | 19.0                   |               |     | QL=6 ST=2 TYP=3 |
|     | 2800  | OTTA | 240 R  | 1955.0        | 2020.0                     | 25.0              | 2.0                    | 1.0           |     |                 |
|     | 3750  | TYKW | 20 GRF | 2250.0        | 2326.0                     | 240.0             | 3.0                    | 1.5           |     |                 |
|     | 2695  | PENT | 240 R  | 2250.0        | 2330.0                     | 40.0              | 2.0                    | 1.0           |     |                 |
| 16  | 100   | GORK | 44 NS  | 0342.0E       |                            | 498.00            |                        | 300.0         |     |                 |
|     | 200   | GORK | 44 NS  | 0342.0E       |                            | 498.00            |                        | 90.0          |     |                 |
|     | 204   | IZMI | 44 NS  | 0600.0E       |                            | 360.00            | 100.0                  |               |     |                 |
|     | 260   | ONDR | 44 NS  | 0610.0E       |                            | 480.00            | 58.0                   |               |     |                 |
|     | 245   | SGMR | 43 NS  | 1021.0        | 1206.0                     | 764.00            | 239.0                  |               |     | QL=6 ST=2 TYP=1 |
|     | 410   | SGMR | 43 NS  | 1021.0        | 1439.6                     | 764.00            | 52.0                   |               |     | QL=6 ST=2 TYP=1 |
|     | 245   | PALE | 43 NS  | 1640.0        | 0226.0                     | 680.00            | 210.0                  |               |     | QL=6 ST=2 TYP=1 |
|     | 100   | HIRA | 44 NS  | 2001.0E       | 2139.0                     | 790.00            | 4300.00                | 1600.00       |     |                 |
|     | 200   | HIRA | 44 NS  | 2001.0E       | 2316.0                     | 790.00            | 160.0                  | 100.0         |     | SL              |
|     | 208   | VORO | 44 NS  | 2200.0E       |                            | 360.00            |                        | 63.0          |     |                 |
|     | 245   | LEAR | 43 NS  | 2314.0        | 0624.8                     | 639.00            | 350.0                  |               |     | QL=6 ST=2 TYP=1 |
|     | 500   | HIRA | 27 RF  | 0414.6        | 0533.0                     | 196.0             | 100.0                  | 25.0          |     | SL              |
|     | 650   | GORK | 23 GRF | 0427.1        | 0503.0                     | 139.00            | 28.0                   |               |     |                 |
|     | 3750  | TYKW | 45 C   | 0449.0        | 0458.5                     | 10.0              | 4.0                    | 1.5           |     |                 |
|     | 100   | GORK | 46 C   | 0458.8        | 0459.0                     | 1.3               | 2800.0                 |               |     |                 |
|     | 100   | GORK |        | 0458.8        | 0459.4                     |                   | 3400.0                 |               |     |                 |
|     | 100   | GORK |        | 0458.8        | 0459.8                     |                   | 2800.0                 |               |     |                 |
|     | 3750  | TYKW | 29 PBI | 0459.0        |                            | 15.0              | 1.5                    | 0.7           |     |                 |
|     | 100   | GORK | 41 F   | 0519.5        | 0519.7                     | 3.8               | 2000.0                 |               |     |                 |
|     | 100   | GORK |        | 0519.5        | 0522.6                     |                   | 3300.0                 |               |     |                 |
|     | 650   | GORK | 46 C   | 0522.3        | 0526.3                     | 19.7              | 26.0                   |               |     |                 |
|     | 650   | GORK |        | 0522.3        | 0531.0                     |                   | 36.0                   |               |     |                 |
|     | 650   | GORK |        | 0522.3        | 0535.7                     |                   | 23.0                   |               |     |                 |
|     | 9100  | GORK | 20 GRF | 0627.0        | 0717.7                     | 72.6              | 5.4                    |               |     |                 |
|     | 2000  | TYKW | 20 GRF | 0630.0        | 0700.0                     | 100.0             | 1.5                    | 0.7           |     |                 |
|     | 3750  | TYKW | 21 GRF | 0630.0        | 0700.0                     | 90.0              | 2.0                    | 1.0           |     |                 |
|     | 2950  | GORK | 20 GRF | 0633.1        | 0700.0                     | 57.0              | 3.4                    | 1.7           |     |                 |
|     | 3750  | TYKW | 5 S    | 0714.0        | 0717.7                     | 6.0               | 4.0                    | 2.0           |     |                 |
|     | 3750  | TYKW | 29 PBI | 0720.0        |                            | 25.0              | 2.0                    | 1.0           |     |                 |
|     | 234   | POTS | 4 S/F  | 0830.4        | 0830.5                     | 2.3               | 575.0                  | 40.0          |     | III             |
|     | 430   | KRAK | 4 S/F  | 0937.6        | 0939.5                     | 3.0               | 201.0                  | 15.0          |     |                 |
|     | 2800  | OTTA | 20 GRF | 1315.0        | 1425.0                     | 115.0             | 2.4                    | 1.4           |     |                 |
|     | 2800  | OTTA | 20 GRF | 1550.0        | 1630.0                     | 75.0              | 2.4                    | 1.4           |     |                 |
|     | 2695  | PENT | 21 GRF | 2200.0        | 0030.0                     | 210.00            | 4.2                    |               |     |                 |
|     | 9400  | TYKW | 45 C   | 2302.0        | 2303.0                     | 3.0               | 13.0                   | 5.0           |     |                 |
|     | 3750  | TYKW | 45 C   | 2302.0        | 2303.1                     | 3.0               | 23.0                   | 9.0           |     |                 |
|     | 610   | PALE | 47 GB  | 2302.1        | 2302.8                     | 1.9               | 90.0                   |               |     | QL=6 ST=2 TYP=5 |
|     | 2695  | PENT | 3 S    | 2302.4        | 2303.0                     | 4.0               | 20.0                   | 5.0           |     |                 |
|     | 410   | PALE | 47 GB  | 2302.5        | 2302.6                     | .6                | 56.0                   |               |     | QL=6 ST=2 TYP=5 |
|     | 2000  | TYKW | 5 S    | 2302.5        | 2303.1                     | 3.0               | 12.0                   | 4.0           |     |                 |
|     | 1000  | TYKW | 5 S    | 2302.5        | 2303.2                     | 2.0               | 4.5                    | 1.5           |     |                 |
|     | 2695  | PALE | 8 S    | 2302.6        | 2303.0                     | 1.0               | 24.0                   |               |     | QL=6 ST=2 TYP=3 |
|     | 4995  | PALE | 8 S    | 2302.6        | 2303.0                     | .9                | 19.0                   |               |     | QL=6 ST=2 TYP=3 |
|     | 208   | VORO | 20 GRF | 2303.0        | 2315.0                     | 22.0              | 119.0                  |               |     |                 |
|     | 3750  | TYKW | 29 PBI | 2305.0        |                            | 20.0              | 2.0                    | 1.0           |     |                 |
| 17  | 200   | GORK | 44 NS  | 0340.0E       |                            | 500.00            |                        | 55.0          |     |                 |
|     | 100   | GORK | 44 NS  | 0345.0E       |                            | 495.00            |                        | 300.0         |     |                 |
|     | 260   | ONDR | 44 NS  | 0558.0E       |                            | 495.00            | 36.0                   |               |     |                 |
|     | 204   | IZMI | 44 NS  | 0600.0E       |                            | 360.00            | 50.0                   |               |     |                 |
|     | 127   | TORN | 44 NS  | 0720.0E       | 1015.3                     | 460.00            | 6500.0                 | 500.0         |     | V=1             |
|     | 245   | SGMR | 43 NS  | 1020.0        | 1341.3                     | 766.00            | 189.0                  |               |     | QL=6 ST=2 TYP=1 |



18  
Apr 84

# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

APRIL 1984

| Day | Freq | Sta  | Type   | Start<br>(UT) | Time of<br>Maximum<br>(UT) | Duration<br>(Min) | Flux Density    |                   | Int | Remarks         |
|-----|------|------|--------|---------------|----------------------------|-------------------|-----------------|-------------------|-----|-----------------|
|     |      |      |        |               |                            |                   | Peak<br>(10 -22 | Mean<br>W/m 2 Hz) |     |                 |
| 17  | 245  | PALE | 43 NS  | 1648.0        | 0102.3                     | 672.0D            | 169.0           |                   |     | QL=6 ST=2 TYP=1 |
|     | 100  | HIRA | 44 NS  | 2000.0E       | 2040.0                     | 790.0D            | 700.0U          | 280.0U            |     |                 |
|     | 200  | HIRA | 44 NS  | 2000.0E       | 2055.0                     | 790.0D            | 110.0           | 20.0              |     | SL              |
|     | 208  | VORO | 44 NS  | 2200.0E       |                            | 360.0D            |                 | 20.0              |     |                 |
|     | 245  | LEAR | 43 NS  | 2254.0        | 0731.6                     | 658.0D            | 260.0           |                   |     | QL=6 ST=2 TYP=1 |
|     | 3750 | TYKW | 5 S    | 0147.5        | 0147.8                     | 1.5               | 2.0             | 0.5               |     |                 |
|     | 2000 | TYKW | 32 ABS | 0220.0        | 0330.0                     | 140.0             | -2.0            | -1.0              |     |                 |
|     | 9400 | TYKW | 32 ABS | 0230.0        | 0250.0                     | 90.0              | -2.0            | -1.0              |     |                 |
|     | 3750 | TYKW | 32 ABS | 0235.0U       | 0310.0U                    | 120.0U            | -2.0            | -1.0U             |     | INTERFERENCE    |
|     | 9400 | TYKW | 5 S    | 0346.0        | 0346.5                     | 1.0               | 12.0            | 3.0               |     |                 |
|     | 500  | HIRA | 42 SER | 0507.2        | 0507.8                     | 2.6               | 250.0           |                   |     | WR              |
|     | 410  | LEAR | 47 GB  | 0507.8        | 0508.1                     | .7                | 290.0           |                   |     | QL=6 ST=2 TYP=5 |
|     | 610  | LEAR | 47 GB  | 0507.8        | 0508.1                     | .7                | 130.0           |                   |     | QL=6 ST=2 TYP=5 |
|     | 2000 | TYKW | 45 C   | 0507.8        | 0508.4                     | 2.5               | 3.0             | 0.7               |     |                 |
|     | 1000 | TYKW | 45 C   | 0507.8        | 0509.0                     | 2.5               | 5.0             | 1.0               |     |                 |
|     | 3750 | TYKW | 45 C   | 0508.0        | 0508.2                     | 3.0               | 4.0             | 1.0               |     |                 |
|     | 100  | GORK | 4 S/F  | 0706.5        | 0707.1                     | 1.0               | 2700.0          | 1100.0            |     |                 |
|     | 500  | HIRA | 8 S    | 0735.3        | 0735.6                     | .6                | 130.0           |                   |     | WR              |
|     | 1000 | TYKW | 5 S    | 0810.0        | 0810.1                     | 0.5               | 14.0            | 3.0               |     |                 |
|     | 810  | KRAK | 8 S    | 0810.0        | 0810.0                     | .2                | 14.0            |                   |     |                 |
|     | 5200 | BERN | 3 S    | 0927.5U       | 0929.0U                    | 20.0U             | 53.0U           |                   |     | ONLY PAPER RE   |
|     | 3100 | BERN | 3 S    | 0927.5U       | 0929.0U                    | 20.0U             | 30.0U           |                   |     | ONLY PAPER RE   |
|     | 9100 | GORK | 21 GRF | 0928.2        | 0935.6                     | 38.0              | 12.0            |                   |     |                 |
|     | 3000 | POTS | 4 S/F  | 0928.5U       | 0929.1                     | 6.5U              | 18.0            |                   |     |                 |
|     | 4995 | ATHN | 4 S/F  | 0928.5        | 0929.5                     | 3.3               | 26.0            |                   |     | QL=6 ST=2 TYP=3 |
|     | 1470 | POTS | 4 S/F  | 0928.5        | 0930.2                     | 3.0               | 7.0             |                   |     |                 |
|     | 2950 | GORK | 4 S/F  | 0928.8        | 0929.6                     | 2.2               | 10.3            | 5.1               |     |                 |
|     | 3100 | CRIM | 3 S    | 0928.8        | 0930.0                     | 4.0               | 19.0            | 6.0               |     |                 |
|     | 950  | GORK | 2 S/F  | 0929.0        | 0930.0                     | 22.0              | 7.5             |                   |     |                 |
|     | 1415 | ATHN | 4 S/F  | 0929.3        | 0930.1                     | 2.7               | 8.0             |                   |     | QL=6 ST=2 TYP=3 |
|     | 2695 | ATHN | 4 S/F  | 0929.3        | 0930.1                     | 2.7               | 13.0            |                   |     | QL=6 ST=2 TYP=3 |
|     | 9100 | GORK | 45 C   | 0929.4        | 0929.6                     | 1.7               | 8.8             |                   |     |                 |
|     | 9100 | GORK |        | 0929.4        | 0930.7                     |                   | 12.0            |                   |     |                 |
|     | 2950 | GORK | 29 PBI | 0931.0        | 0931.2                     | 17.0              | 6.0             | 3.0               |     |                 |
|     | 3100 | CRIM | 29 PBI | 0932.8        | 0932.8                     | 32.0              | 8.0             | 3.0               |     |                 |
|     | 9100 | GORK | 27 RF  | 1124.0        | 1143.9                     | 39.0              | 8.6             |                   |     |                 |
|     | 2950 | GORK | 27 RF  | 1131.3        | 1136.0                     | 30.0D             | 3.5             | 1.7               |     |                 |
|     | 2800 | OTTA | 21 GRF | 1440.0        | 1448.0                     | 23.0              | 2.8             | 1.0               |     |                 |
|     | 2800 | OTTA | 1 S    | 1445.0        | 1446.3                     | 2.5               | 4.2             | 2.0               |     |                 |
|     | 2800 | OTTA | 20 GRF | 1620.0        | 1630.0                     | 75.0              | 5.0             | 2.5               |     |                 |
|     | 2800 | OTTA | 1 S    | 2146.0        | 2146.4                     | 1.0               | 3.4             | 1.2               |     |                 |
| 18  | 200  | GORK | 44 NS  | 0355.0E       |                            | 495.0D            |                 | 20.0              |     |                 |
|     | 100  | GORK | 44 NS  | 0354.0E       |                            | 492.0D            |                 | 80.0              |     |                 |
|     | 260  | ONDR | 44 NS  | 0600.0E       |                            | 490.0D            | 64.0            |                   |     |                 |
|     | 204  | IZMI | 44 NS  | 0600.0E       |                            | 360.0D            | 250.0           |                   |     |                 |
|     | 127  | TORN | 44 NS  | 0620.0E       | 0958.6                     | 520.0D            | 340.0           | 20.0              |     | V=1             |
|     | 245  | SGMR | 43 NS  | 1018.0        | 1311.3                     | 769.0D            | 380.0           |                   |     | QL=6 ST=2 TYP=1 |
|     | 410  | SGMR | 43 NS  | 1420.8        | 1431.3                     | 526.2D            | 17.0            |                   |     | QL=6 ST=2 TYP=1 |
|     | 245  | PALE | 43 NS  | 1648.0        | 0059.8                     | 675.0D            | 180.0           |                   |     | QL=6 ST=2 TYP=1 |
|     | 200  | HIRA | 44 NS  | 1959.0E       | 0111.0                     | 790.0D            | 20.0            | 10.0              |     | ML              |
|     | 208  | VORO | 44 NS  | 2200.0E       |                            | 360.0D            |                 | 16.0              |     |                 |
|     | 245  | LEAR | 43 NS  | 2255.0        | 0100.0                     | 716.0D            | 160.0           |                   |     | QL=6 ST=2 TYP=1 |
|     | 3750 | TYKW | 5 S    | 0100.0        | 0107.0                     | 20.0              | 1.5             | 0.5               |     |                 |
|     | 3750 | TYKW | 5 S    | 0248.5        | 0249.2                     | 1.5               | 1.5             | 0.5               |     |                 |
|     | 33   | UPIC | 45 C   | 0548.2        | 0548.5                     | .4                |                 |                   |     |                 |
|     | 1415 | ATHN | 4 S/F  | 0557.1        | 0559.5                     | 3.5               | 3.0             |                   |     | QL=6 ST=2 TYP=3 |
|     | 1415 | LEAR | 8 S    | 0600.6        | 0600.8                     | .2                | 18.0            |                   |     | QL=6 ST=2 TYP=3 |
|     | 2695 | LEAR | 8 S    | 0600.6        | 0600.8                     | .2                | 16.0            |                   |     | QL=6 ST=2 TYP=3 |
|     | 3100 | CRIM | 20 GRF | 0628.0        | 0803.0                     | 329.0             | 5.0             | 2.0               |     |                 |
|     | 2000 | TYKW | 20 GRF | 0650.0        | 0715.0                     | 90.0              | 2.0             | 1.0               |     |                 |
|     | 2950 | GORK | 20 GRF | 0657.5        | 0712.0                     | 129.0             | 4.1             | 2.0               |     |                 |
|     | 3750 | TYKW | 20 GRF | 0700.0        | 0711.0                     | 40.0              | 2.0             | 1.0               |     |                 |
|     | 33   | UPIC | 42 SER | 0703.8        |                            | 66.9              |                 |                   |     |                 |
|     | 29   | UPIC | 42 SER | 0733.0E       |                            | 37.8D             |                 |                   |     |                 |
|     | 113  | POTS | 4 S/F  | 0748.0        | 0748.2                     | .6                | 950.0           | 75.0              |     | !!!             |
|     | 410  | LEAR | 47 GB  | 0816.3        | 0816.5                     | .5                | 59.0            |                   |     | QL=6 ST=2 TYP=5 |
|     | 29   | UPIC | 45 C   | 1036.2        | 1036.4                     | .6                |                 |                   |     |                 |
|     | 33   | UPIC | 45 C   | 1036.4        | 1036.4                     | .4                |                 |                   |     |                 |
|     | 234  | POTS | 4 S/F  | 1037.1        | 1038.0                     | 10.8              | 700.0           | 3.0               |     |                 |
|     | 430  | KRAK | 42 SER | 1038.2        | 1043.8                     | 19.0              | 25.0            |                   |     |                 |

# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

19  
Apr 84

APRIL 1984

| Day | Freq  | Sta  | Type   | Start<br>(UT) | Time of<br>Maximum<br>(UT) | Duration<br>(Min) | Flux Density                                    |                                                 | Int | Remarks         |
|-----|-------|------|--------|---------------|----------------------------|-------------------|-------------------------------------------------|-------------------------------------------------|-----|-----------------|
|     |       |      |        |               |                            |                   | Peak<br>(10 <sup>-22</sup> W/m <sup>2</sup> Hz) | Mean<br>(10 <sup>-22</sup> W/m <sup>2</sup> Hz) |     |                 |
| 18  | 2800  | OTTA | 20 GRF | 1120.0        | 1125.0                     | 40.0              | 2.4                                             | 1.8                                             |     |                 |
|     | 2800  | OTTA | 3 S    | 1215.0        | 1218.7                     | 6.0               | 38.0                                            | 14.2                                            |     |                 |
|     | 3000  | POTS | 29 FBI | 1215.0        | 1218.5                     | 120.0             | 39.0                                            |                                                 |     |                 |
|     | 1470  | POTS | 29 FBI | 1215.0        | 1219.0                     | 130.0             | 15.0                                            |                                                 |     |                 |
|     | 5200  | BERN | 3 S    | 1215.50       | 1217.50                    | 5.00              | 53.00                                           |                                                 |     | ONLY PAPER RE   |
|     | 3100  | BERN | 3 S    | 1215.50       | 1217.50                    | 5.00              | 60.00                                           |                                                 |     | ONLY PAPER RE   |
|     | 9400  | POTS | 29 FBI | 1217.0        | 1219.0                     | 58.0              | 17.0                                            |                                                 |     |                 |
|     | 2695  | SGMR | 4 S/F  | 1217.3        | 1218.6                     | 4.7               | 44.0                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 2695  | ATHH | 4 S/F  | 1217.3        | 1219.0                     | 4.0               | 30.0                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 1415  | ATHH | 4 S/F  | 1217.5        | 1219.0                     | 3.8               | 11.0                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 4995  | ATHH | 4 S/F  | 1217.5        | 1219.0                     | 3.8               | 27.0                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 4995  | SGMR | 4 S/F  | 1217.6        | 1218.3                     | 7.5               | 34.0                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 8800  | ATHH | 4 S/F  | 1217.6        | 1219.0                     | 3.7               | 27.0                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 8800  | SGMR | 4 S/F  | 1217.8        | 1219.0                     | 7.7               | 28.0                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 1415  | SGMR | 4 S/F  | 1218.0        | 1219.3                     | 4.1               | 18.0                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 15400 | SGMR | 4 S/F  | 1218.3        | 1219.0                     | 7.2               | 20.0                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 2800  | OTTA | 29 FBI | 1221.0        | 1221.0                     | 140.0             | 9.4                                             | 5.0                                             |     |                 |
|     | 260   | ONDR | 46 C   | 1225.5        | 1233.0                     | 20.0              | 95.0                                            | 39.0                                            |     |                 |
|     | 536   | ONDR | 46 C   | 1226.6        | 1229.0                     | 11.0              | 15.0                                            | 9.0                                             |     |                 |
|     | 610   | SGMR | 4 S/F  | 1228.6        | 1229.3                     | 5.2               | 22.0                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 410   | SGMR | 8 S    | 1228.6        | 1229.6                     | 1.00              | 35.0                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 245   | SGMR | 47 GB  | 1229.5        | 1229.6                     | 7.6               | 169.0                                           |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 2800  | OTTA | 21 GRF | 1445.0        | 1510.0                     | 60.0              | 2.0                                             | 1.0                                             |     |                 |
|     | 2800  | OTTA | 1 S    | 1450.0        | 1453.0                     | 10.0              | 2.2                                             | 1.0                                             |     |                 |
|     | 2800  | OTTA | 20 GRF | 1548.0        | 1552.0                     | 20.0              | 6.2                                             | 2.1                                             |     |                 |
|     | 2800  | OTTA | 240AR  | 1548.0        | 1610.0                     | 22.0              | 2.4                                             |                                                 |     |                 |
|     | 2800  | OTTA | 20 GRF | 1700.0        | 1800.0                     | 100.0             | 3.0                                             | 1.5                                             |     |                 |
|     | 2800  | OTTA | 20 GRF | 2010.0        | 2030.0                     | 40.0              | 2.0                                             | 1.0                                             |     |                 |
|     | 2800  | OTTA |        | 2130.0        |                            | 170.0             | 2.2                                             | 1.6                                             |     |                 |
|     | 3750  | TYKW | 21 GRF | 2210.0        | 2230.0                     | 90.0              | 2.0                                             | 1.0                                             |     |                 |
|     | 3750  | TYKW | 20 GRF | 2305.0        | 2320.0                     | 30.0              | 1.5                                             | 0.5                                             |     |                 |
| 19  | 100   | GORK | 44 NS  | 0335.0E       |                            | 510.00            |                                                 | 5.0                                             |     |                 |
|     | 200   | GORK | 44 NS  | 0341.0E       |                            | 507.00            |                                                 | 10.0                                            |     |                 |
|     | 204   | I2MI | 43 NS  | 0600.0        |                            | 360.0             | 30.0                                            |                                                 |     |                 |
|     | 260   | ONDR | 44 NS  | 0600.0E       |                            | 490.00            | 22.0                                            |                                                 |     |                 |
|     | 245   | PALE | 43 NS  | 1646.0        | 2220.8                     | 675.00            | 110.0                                           |                                                 |     | QL=6 ST=2 TYP=1 |
|     | 200   | HIRA | 44 NS  | 1958.0E       | 0618.0                     | 790.00            | 4.0                                             | 3.0                                             |     |                 |
|     | 208   | VORO | 44 NS  | 2200.0E       |                            | 360.00            |                                                 | 10.0                                            |     |                 |
|     | 15400 | LEAR | 8 S    | 0129.0        | 0129.1                     | .3                | 18.0                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 3750  | TYKW | 45 C   | 0155.0        | 0157.3                     | 4.0               | 21.0                                            | 7.0                                             |     |                 |
|     | 2000  | TYKW | 45 C   | 0155.0        | 0157.4                     | 4.0               | 17.0                                            | 5.0                                             |     |                 |
|     | 1000  | TYKW | 5 S    | 0156.0        | 0157.7                     | 4.0               | 5.0                                             | 2.0                                             |     |                 |
|     | 9400  | TYKW | 21 GRF | 0156.0        | 0203.0                     | 45.0              | 8.0                                             | 3.0                                             |     |                 |
|     | 500   | HIRA | 42 SER | 0156.1        | 0156.3                     | 1.3               | 23.0                                            |                                                 |     | WL              |
|     | 2695  | LEAR | 8 S    | 0156.5        | 0157.5                     | 1.6               | 24.0                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 9400  | TYKW | 5 S    | 0156.5        | 0157.5                     | 2.5               | 4.0                                             | 1.5                                             |     |                 |
|     | 4995  | PALE | 8 S    | 0156.6        | 0157.3                     | 1.0               | 17.0                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 2695  | PALE | 8 S    | 0156.6        | 0157.3                     | 1.5               | 22.0                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 4995  | LEAR | 8 S    | 0156.8        | 0157.5                     | .8                | 15.0                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 1415  | LEAR | 8 S    | 0157.5        | 0157.6                     | .3                | 11.0                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 2000  | TYKW | 29 FBI | 0159.0        |                            | 60.0              | 4.0                                             | 2.0                                             |     |                 |
|     | 3750  | TYKW | 29 FBI | 0159.0        |                            | 40.00             | 4.0                                             | 2.00                                            |     |                 |
|     | 1000  | TYKW | 29 FBI | 0200.0        |                            | 45.0              | 1.0                                             | 0.5                                             |     | INTERFERENCE    |
|     | 8800  | PALE | 8 S    | 0200.8        | 0200.8                     | .3                | 23.0                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 3750  | TYKW | 20 GRF | 0310.0        | 0345.0                     | 130.0             | 3.0                                             | 1.5                                             |     |                 |
|     | 2000  | TYKW | 20 GRF | 0310.0        | 0353.0                     | 130.0             | 2.0                                             | 1.0                                             |     |                 |
|     | 430   | KRAK | 42 SER | 1009.0        | 1009.2                     | 30.0              | 32.0                                            |                                                 |     |                 |
|     | 536   | ONDR | 8 S    | 1056.5        | 1056.8                     | .6                | 10.0                                            |                                                 |     |                 |
|     | 430   | KRAK | 42 SER | 1057.0        | 1058.5                     | 41.0              | 28.0                                            |                                                 |     |                 |
|     | 430   | KRAK |        | 1057.0        | 1137.2                     |                   | 30.0                                            |                                                 |     |                 |
|     | 2800  | OTTA | 20 GRF | 1130.0        | 1250.0                     | 115.0             | 3.2                                             | 1.6                                             |     |                 |
|     | 430   | KRAK | 45 C   | 1208.2        | 1213.8                     | 9.2               | 400.00                                          | 9.0                                             |     |                 |
|     | 430   | KRAK | 8 S    | 1226.6        | 1226.8                     | .6                | 26.0                                            |                                                 |     |                 |
|     | 2800  | OTTA | 27 RF  | 1348.0        |                            | 102.0             | 1.8                                             | 1.5                                             |     |                 |
|     | 2800  | OTTA | 24 R   | 1348.0        | 1400.0                     | 12.0              | 1.8                                             | 0.9                                             |     |                 |
|     | 2800  | OTTA | 24P R  | 1400.0        |                            | 70.0              | 1.8                                             |                                                 |     |                 |
|     | 245   | SGMR | 47 GB  | 1436.3        | 1438.3                     | 3.0               | 330.0                                           |                                                 |     | QL=6 ST=2 TYP=5 |
|     | 2800  | OTTA | 26 FAL | 1510.0        | 1530.0                     | 20.0              | -1.8                                            | -0.9                                            |     |                 |
|     | 2800  | OTTA | 27 RF  | 1545.0        |                            | 195.0             | 2.2                                             | 1.8                                             |     |                 |
|     | 2800  | OTTA | 24 R   | 1545.0        | 1620.0                     | 35.0              | 2.2                                             | 1.1                                             |     |                 |

20  
Apr 84

# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

APRIL 1984

| Day | Freq  | Sta  | Type   | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density Peak (10 <sup>-22</sup> W/m <sup>2</sup> Hz) | Mean (10 <sup>-22</sup> W/m <sup>2</sup> Hz) | Int | Remarks         |
|-----|-------|------|--------|------------|----------------------|----------------|-----------------------------------------------------------|----------------------------------------------|-----|-----------------|
| 19  | 2800  | OTTA | 24P R  | 1620.0     |                      | 120.0          | 2.2                                                       |                                              |     |                 |
|     | 245   | SGMR | 8 S    | 1759.8     | 1800.1               | 1.0            | 34.0                                                      |                                              |     | QL=6 ST=2 TYP=3 |
|     | 2800  | OTTA | 26 FAL | 1820.0     | 1900.0               | 40.0           | -2.2                                                      | -1.1                                         |     |                 |
|     | 2800  | OTTA | 20 GRF | 2110.0     |                      | 50.0           | 1.8                                                       |                                              |     |                 |
|     | 2695  | PENT | 240 R  | 2220.0     | 2300.0               | 40.0           | 2.2                                                       | 1.1                                          |     |                 |
|     | 3750  | TYKW | 20 GRF | 2245.0     | 2306.0               | 50.0           | 1.5                                                       | 0.7                                          |     |                 |
|     | 245   | LEAR | 47 GB  | 2307.6E    | 2308.1               | 1.00           | 210.0                                                     |                                              |     | QL=1 ST=3 TYP=5 |
| 20  | 100   | GORK | 44 NS  | 0336.0E    |                      | 126.00         |                                                           | 5.0                                          |     |                 |
|     | 200   | GORK | 44 NS  | 0337.0E    |                      | 125.00         |                                                           | 10.0                                         |     |                 |
|     | 260   | ONDR | 44 NS  | 0550.0E    |                      | 480.00         | 10.0                                                      |                                              |     |                 |
|     | 127   | TORN | 45 NS  | 0632.0     | 0851.3               | 508.0          | 70.0                                                      | 8.0                                          |     | V=1             |
|     | 29    | UPIC | 43 NS  | 0715.7     |                      | 526.0          |                                                           |                                              |     |                 |
|     | 33    | UPIC | 43 NS  | 0716.7     |                      | 524.8          |                                                           |                                              |     |                 |
|     | 127   | TORN | 43 NS  | 1115.0     | 1138.4               | 110.0          | 10.0                                                      | 5.0                                          |     | V=1             |
|     | 200   | HIRA | 44 NS  | 1956.0E    | 0017.0               | 730.00         | 10.0                                                      | 5.0                                          |     | WR              |
|     | 245   | LEAR | 43 NS  | 2255.0     | 0142.1               | 654.00         | 72.0                                                      |                                              |     | QL=6 ST=2 TYP=1 |
|     | 2000  | TYKW | 21 GRF | 0149.0     | 0234.0               | 110.0          | 2.0                                                       | 1.0                                          |     |                 |
|     | 3750  | TYKW | 45 C   | 0149.5     | 0150.6               | 1.5            | 2.0                                                       | 0.7                                          |     |                 |
|     | 500   | HIRA | 6 S    | 0149.7     | 0150.6               | 1.5            | 3.0                                                       | 2.0                                          |     | 0               |
|     | 2000  | TYKW | 5 S    | 0150.0     | 0150.7               | 2.0            | 3.0                                                       | 1.0                                          |     |                 |
|     | 3750  | TYKW | 29 PBI | 0151.0     |                      | 10.0           | 1.5                                                       | 0.7                                          |     |                 |
|     | 2000  | TYKW | 45 C   | 0353.0     | 0353.5               | 3.0            | 1.0                                                       | 0.3                                          |     |                 |
|     | 3750  | TYKW | 20 GRF | 0445.0     | 0500.0               | 45.0           | 1.5                                                       | 0.7                                          |     |                 |
|     | 100   | GORK | 46 C   | 0527.7     | 0529.0               | 2.9            | 35.0                                                      |                                              |     |                 |
|     | 100   | GORK |        | 0527.7     | 0529.7               |                | 45.00                                                     |                                              |     |                 |
|     | 500   | HIRA | 8 S    | 0605.1     | 0605.1               | .1             | 6.0                                                       |                                              |     | 0               |
|     | 15400 | LEAR | 8 S    | 0613.6     | 0614.1               | .5             | 13.0                                                      |                                              |     | QL=6 ST=2 TYP=3 |
|     | 3750  | TYKW | 45 C   | 0702.5     | 0703.3               | 4.5            | 2.0                                                       | 1.0                                          |     |                 |
|     | 3750  | TYKW | 30 PBI | 0707.0     |                      | 25.0           | 1.0                                                       | 0.5                                          |     |                 |
|     | 3100  | CRIM | 1 S    | 0712.8     | 0713.8               | 5.0            | 4.0                                                       | 1.0                                          |     |                 |
|     | 1000  | TYKW | 45 C   | 0719.5     | 0721.2               | 4.5            | 14.0                                                      | 5.0                                          |     |                 |
|     | 950   | GORK | 22 GRF | 0719.5     | 0723.0               | 10.4           | 15.0                                                      |                                              |     |                 |
|     | 3750  | TYKW | 5 S    | 0720.0     | 0722.4               | 7.0            | 3.0                                                       | 1.0                                          |     |                 |
|     | 1470  | POTS | 45 C   | 0720.0     | 0721.5               | 10.0           | 33.0                                                      |                                              |     |                 |
|     | 113   | POTS | 4 S/F  | 0720.1     | 0721.0               | 7.4            | 200.0                                                     | 10.0                                         |     | 11              |
|     | 536   | ONDR | 40 F   | 0720.5     | 0720.5               | 3.0            | 7.0                                                       |                                              |     |                 |
|     | 2000  | TYKW | 45 C   | 0720.5     | 0721.6               | 4.0            | 21.0                                                      | 3.0                                          |     |                 |
|     | 500   | HIRA | 8 S    | 0720.7     | 0720.9               | .5             | 5.0                                                       | 3.0                                          |     | 0               |
|     | 1415  | LEAR | 47 GB  | 0721.0     | 0721.6               | .8             | 54.0                                                      |                                              |     | QL=6 ST=2 TYP=5 |
|     | 2695  | LEAR | 8 S    | 0721.6     | 0722.3               | .9             | 18.0                                                      |                                              |     | QL=6 ST=2 TYP=5 |
|     | 950   | GORK | 1 S    | 0727.3     | 0728.3               | 2.0            | 6.0                                                       |                                              |     |                 |
|     | 1415  | LEAR | 8 S    | 0728.8     | 0729.0               | .5             | 27.0                                                      |                                              |     | QL=6 ST=2 TYP=3 |
|     | 245   | LEAR | 8 S    | 0733.8     | 0734.0               | .5             | 15.0                                                      |                                              |     | QL=6 ST=2 TYP=3 |
|     | 410   | LEAR | 8 S    | 0733.8     | 0734.1               | .5             | 11.0                                                      |                                              |     | QL=6 ST=2 TYP=3 |
|     | 3100  | CRIM | 24 R   | 0759.0     | 0910.0               | 71.0           | 8.0                                                       |                                              |     |                 |
|     | 2950  | GORK | 20 GRF | 0821.0     | 0851.0               | 108.0          | 5.0                                                       | 2.5                                          |     |                 |
|     | 810   | KRAK | 8 S    | 0822.0     | 0822.0               | .2             | 7.0                                                       |                                              |     |                 |
|     | 113   | POTS | 4 S/F  | 0827.9     | 0828.2               | 1.1            | 550.0                                                     | 25.0                                         |     | 111             |
|     | 234   | POTS | 4 S/F  | 0828.1     | 0828.2               | 2.2            | 440.0                                                     | 10.0                                         |     | 111             |
|     | 204   | IZMI | 4 S/F  | 0828.2     | 0828.3               | .4             | 1000.0                                                    | 500.0                                        |     |                 |
|     | 9100  | GORK | 20 GRF | 0845.0     | 0908.8               | 41.3           | 4.0                                                       |                                              |     |                 |
|     | 810   | KRAK | 8 S    | 1043.0     | 1043.0               | .2             | 13.0                                                      |                                              |     |                 |
|     | 2950  | GORK | 1 S    | 1058.2     | 1101.5               | 7.5            | 5.9                                                       | 3.0                                          |     |                 |
|     | 113   | POTS | 4 S/F  | 1125.3     | 1125.6               | .9             | 250.0                                                     |                                              |     |                 |
|     | 1470  | POTS | 4 S/F  | 1125.5     | 1126.4               | 3.0            | 15.0                                                      |                                              |     |                 |
|     | 9100  | GORK | 20 GRF | 1137.9     | 1158.1               | 21.8           | 4.5                                                       |                                              |     |                 |
|     | 2800  | OTTA | 240 R  | 1140.0     | 1200.0               | 20.0           | 2.6                                                       | 1.3                                          |     |                 |
|     | 610   | SGMR | 8 S    | 1258.1     | 1258.6               | 1.2            | 11.0                                                      |                                              |     | QL=6 ST=2 TYP=3 |
|     | 10    | SGMR | 47 GB  | 1258.5     | 1258.6               | .5             | 76.0                                                      |                                              |     | QL=6 ST=2 TYP=5 |
|     | 70    | OTTA | 240 R  | 1310.0     | 1315.0               | 5.0            | 2.6                                                       | 1.3                                          |     |                 |
|     | 100   | OTTA | 21 GRF | 1345.0     | 1450.0               | 275.0          | 5.8                                                       | 2.7                                          |     |                 |
|     | 100   | OTTA | 21 GRF | 1620.0     | 1631.0               | 30.0           | 4.4                                                       |                                              |     |                 |
|     | 100   | OTTA | 4 S/F  | 1631.0     | 1632.0               | 5.0            | 12.4                                                      | 6.7                                          |     |                 |
|     | 2695  | SGMR | 8 S    | 1631.6     | 1632.0               | .7             | 16.0                                                      |                                              |     | QL=6 ST=2 TYP=3 |
|     | 1415  | SGMR | 4 S/F  | 1631.8     | 1633.6               | 2.2            | 18.0                                                      |                                              |     | QL=6 ST=2 TYP=3 |
|     | 610   | SGMR | 47 GB  | 1639.3     | 1639.3               | .5             | 310.0                                                     |                                              |     | QL=6 ST=2 TYP=5 |
|     | 610   | SGMR | 8 S    | 1806.3     | 1806.3               | .3             | 20.0                                                      |                                              |     | QL=6 ST=2 TYP=3 |
|     | 2800  | OTTA | 27A SF | 1900.0     |                      | 185.0          | 2.2                                                       | 1.8                                          |     |                 |
|     | 2800  | OTTA | 24 R   | 1900.0     | 1945.0               | 45.0           | 2.2                                                       | 1.4                                          |     |                 |
|     | 2800  | OTTA | 2 S/F  | 1938.0     | 1939.2               | 5.5            | 6.2                                                       | 2.1                                          |     |                 |

# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

21  
Apr 84

APRIL 1984

| Day | Freq  | Sta  | Type   | Start<br>(UT) | Time of<br>Maximum<br>(UT) | Duration<br>(Min) | Flux Density<br>Peak<br>(10 <sup>-22</sup> W/m <sup>2</sup> Hz) | Mean<br>2 Hz | Int | Remarks         |
|-----|-------|------|--------|---------------|----------------------------|-------------------|-----------------------------------------------------------------|--------------|-----|-----------------|
| 20  | 8800  | SGMR | 47 GB  | 1938.3        | 1939.1                     | 2.5               | 169.0                                                           |              |     | QL=3 ST=2 TYP=5 |
|     | 4995  | SGMR | 4 S/F  | 1938.3        | 1939.1                     | 2.8               | 38.0                                                            |              |     | QL=3 ST=2 TYP=3 |
|     | 15400 | PALE | 47 GB  | 1938.3        | 1939.3                     | 4.2               | 270.0                                                           |              |     | QL=6 ST=2 TYP=5 |
|     | 15400 | SGMR | 47 GB  | 1938.6        | 1939.1                     | 1.4               | 250.0                                                           |              |     | QL=3 ST=2 TYP=5 |
|     | 8800  | PALE | 47 GB  | 1938.6        | 1939.3                     | 2.5               | 180.0                                                           |              |     | QL=6 ST=2 TYP=5 |
|     | 4995  | PALE | 8 S    | 1938.8        | 1939.3                     | 1.5               | 32.0                                                            |              |     | QL=6 ST=2 TYP=3 |
|     | 610   | SGMR | 47 GB  | 1940.1        | 1940.3                     | .7                | 59.0                                                            |              |     | QL=6 ST=2 TYP=5 |
|     | 245   | SGMR | 8 S    | 1942.3        | 1942.5                     | .3                | 28.0                                                            |              |     | QL=6 ST=2 TYP=3 |
|     | 2800  | OTTA | 24P R  | 1945.0        |                            | 115.0             | 2.2                                                             |              |     |                 |
|     | 500   | HIRA | 42 SER | 2052.6        | 2054.3                     | 1.8               | 30.0                                                            |              |     | 0               |
|     | 245   | SGMR | 47 GB  | 2052.8        | 2053.0                     | 2.0               | 380.0                                                           |              |     | QL=6 ST=2 TYP=5 |
|     | 610   | SGMR | 47 GB  | 2054.3        | 2054.5                     | .5                | 87.0                                                            |              |     | QL=6 ST=2 TYP=5 |
|     | 200   | HIRA | 46 C   | 2133.7        | 2136.8                     | 7.0               | 140.0                                                           | 35.0         |     |                 |
|     | 2800  | OTTA | 2 S/F  | 2134.0        | 2135.7                     | 5.0               | 6.0                                                             | 2.0          |     |                 |
|     | 1000  | TYKW | 45 C   | 2134.0        | 2136.6                     | 6.0               | 16.0                                                            | 3.0          |     |                 |
|     | 100   | HIRA | 42 SER | 2134.5        | 2153.7                     | 19.7              | 2200.0                                                          |              |     |                 |
|     | 2000  | TYKW | 45 C   | 2135.0        | 2135.8                     | 3.5               | 5.0                                                             | 1.5          |     |                 |
|     | 3750  | TYKW | 5 S    | 2135.0        | 2135.8                     | 3.0               | 7.0                                                             | 1.0          |     |                 |
|     | 500   | HIRA | 42 SER | 2135.8        | 2136.5                     | 7.0               | 4.0                                                             |              |     | 0               |
|     | 245   | SGMR | 47 GB  | 2136.5        | 2136.8                     | 3.0               | 280.0                                                           |              |     | QL=1 ST=2 TYP=5 |
|     | 3750  | TYKW | 31 ABS | 2138.0        | 2205.0                     | 90.0              | -4.0                                                            | -2.0         |     |                 |
|     | 2000  | TYKW | 31 ABS | 2138.5        | 2225.0                     | 85.0              | -3.0                                                            | -1.5         |     |                 |
|     | 2800  | OTTA | 26 FAL | 2140.0        | 2205.0                     | 25.0              | -2.2                                                            | -0.6         |     |                 |
|     | 200   | HIRA | 46 C   | 2145.9        | 2147.5                     | 8.7               | 120.0                                                           | 46.0         |     |                 |
|     | 500   | HIRA | 46 C   | 2146.3        | 2152.3                     | 8.3               | 83.0                                                            | 20.0         |     | 0               |
|     | 245   | SGMR | 47 GB  | 2147.0        | 2148.1                     | 7.6               | 100.0                                                           |              |     | QL=6 ST=2 TYP=5 |
|     | 410   | SGMR | 47 GB  | 2147.1        | 2148.1                     | 2.0               | 63.0                                                            |              |     | QL=6 ST=2 TYP=5 |
|     | 610   | SGMR | 47 GB  | 2147.3        | 2148.6                     | 1.8               | 72.0                                                            |              |     | QL=6 ST=2 TYP=5 |
|     | 1000  | TYKW | 45 C   | 2147.5        | 2148.7                     | 2.5               | 8.0                                                             | 2.5          |     |                 |
|     | 245   | PALE | 47 GB  | 2147.8E       | 2148.3                     | 1.0D              | 110.0                                                           |              |     | QL=2 ST=2 TYP=5 |
|     | 410   | PALE | 47 GB  | 2147.8E       | 2148.5                     | 7.0D              | 82.0                                                            |              |     | QL=2 ST=2 TYP=5 |
|     | 610   | PALE | 47 GB  | 2147.8E       | 2148.8                     | 1.5D              | 119.0                                                           |              |     | QL=2 ST=2 TYP=5 |
|     | 9400  | TYKW | 32 ABS | 2155.0        | 2220.0                     | 105.0             | -4.0                                                            | -2.0         |     |                 |
|     | 2695  | PENT | 240 R  | 2225.0        | 2310.0                     | 45.0              | 6.4                                                             | 3.4          |     |                 |
|     | 245   | PALE | 47 GB  | 2257.1        | 2257.3                     | .5                | 51.0                                                            |              |     | QL=6 ST=2 TYP=5 |
|     | 200   | HIRA | 42 SER | 2309.0        | 2309.7                     | 7.3               | 36.0                                                            |              |     |                 |
|     | 410   | PALE | 47 GB  | 2341.8        | 2342.1                     | 1.2               | 51.0                                                            |              |     | QL=6 ST=2 TYP=5 |
|     | 245   | PALE | 47 GB  | 2341.8        | 2342.8                     | 1.8               | 65.0                                                            |              |     | QL=6 ST=2 TYP=5 |
|     | 1000  | TYKW | 5 S    | 2352.4        | 2352.7                     | 0.8               | 1.0                                                             | 0.3          |     |                 |
|     | 2000  | TYKW | 5 S    | 2352.4        | 2352.7                     | 0.8               | 1.0                                                             | 0.3          |     |                 |
|     | 2000  | TYKW | 5 S    | 2357.5        | 2358.1                     | 1.5               | 3.0                                                             | 1.0          |     |                 |
|     | 3750  | TYKW | 5 S    | 2357.5        | 2358.1                     | 1.5               | 7.0                                                             | 2.0          |     |                 |
|     | 4995  | LEAR | 8 S    | 2357.8        | 2358.1                     | .8                | 6.0                                                             |              |     | QL=6 ST=3 TYP=3 |
|     | 2695  | LEAR | 8 S    | 2358.1        | 2358.1                     | .2                | 13.0                                                            |              |     | QL=6 ST=2 TYP=3 |
| 21  | 208   | VORO | 44 NS  | 0200.0E       |                            | 120.0D            |                                                                 | 10.0         |     |                 |
|     | 204   | IZMI | 43 NS  | 0600.0        |                            | 300.0             | 20.0                                                            |              |     |                 |
|     | 260   | ONDR | 44 NS  | 0605.0E       |                            | 508.0D            | 37.0                                                            |              |     |                 |
|     | 410   | LEAR | 43 NS  | 0645.0        | 0649.3                     | 184.0D            | 13.0                                                            |              |     | QL=6 ST=2 TYP=1 |
|     | 127   | TORN | 43 NS  | 0700.0        | 0826.3                     | 340.0             | 20.0                                                            | 1.0          |     | V=1             |
|     | 33    | UPIC | 43 NS  | 0719.2        |                            | 580.8D            |                                                                 |              |     |                 |
|     | 29    | UPIC | 43 NS  | 0719.4        |                            | 580.6D            |                                                                 |              |     |                 |
|     | 245   | SGMR | 43 NS  | 1014.0        | 1719.8                     | 560.0D            | 420.0                                                           |              |     | QL=3 ST=2 TYP=1 |
|     | 200   | HIRA | 44 NS  | 1954.0E       | 0043.0                     | 790.0D            | 20.0                                                            | 8.0          |     | WR              |
|     | 208   | VORO | 44 NS  | 2200.0E       |                            | 360.0D            |                                                                 | 14.0         |     |                 |
|     | 245   | LEAR | 43 NS  | 2256.0        | 0041.6                     | 653.0D            | 110.0                                                           |              |     | QL=6 ST=2 TYP=1 |
|     | 410   | LEAR | 43 NS  | 2256.0        | 0704.8                     | 653.0D            | 119.0                                                           |              |     | QL=6 ST=2 TYP=1 |
|     | 2840  | PEKG | 1 S    | 0007.0        | 0008.1                     | 4.0               | 6.0                                                             | 2.1          |     |                 |
|     | 2000  | TYKW | 21 GRF | 0020.0        | 0100.0                     | 120.0             | 2.0                                                             | 1.0          |     |                 |
|     | 3750  | TYKW | 21 GRF | 0025.0        | 0053.0                     | 110.0             | 2.0                                                             | 1.0          |     |                 |
|     | 2695  | PENT | 20 GRF | 0030.0        | 0100.0                     | 60.0              | 2.2                                                             | 1.1          |     |                 |
|     | 1000  | TYKW | 45 C   | 0141.5        | 0143.6                     | 4.5               | 26.0                                                            | 1.0          |     |                 |
|     | 3750  | TYKW | 45 C   | 0153.0        | 0154.7                     | 5.0               | 3.0                                                             | 1.0          |     |                 |
|     | 4995  | LEAR | 4 S/F  | 0153.1        | 0155.1                     | 4.4               | 7.0                                                             |              |     | QL=6 ST=2 TYP=3 |
|     | 9400  | TYKW | 5 S    | 0153.5        | 0154.7                     | 3.5               | 6.0                                                             | 2.0          |     |                 |
|     | 8800  | LEAR | 4 S/F  | 0153.8        | 0155.1                     | 2.5               | 7.0                                                             |              |     | QL=6 ST=2 TYP=3 |
|     | 2000  | TYKW | 5 S    | 0154.0        | 0155.0                     | 3.0               | 1.0                                                             | 0.3          |     |                 |
|     | 15400 | LEAR | 8 S    | 0154.6        | 0155.1                     | 1.5               | 10.0                                                            |              |     | QL=6 ST=2 TYP=3 |
|     | 2000  | TYKW | 5 S    | 0201.0        | 0201.3                     | 1.5               | 7.0                                                             | 1.5          |     |                 |
|     | 3750  | TYKW | 45 C   | 0203.5        | 0204.1                     | 4.5               | 4.0                                                             | 1.5          |     |                 |
|     | 410   | LEAR | 8 S    | 0225.6        | 0225.8                     | .7                | 28.0                                                            |              |     | QL=6 ST=2 TYP=3 |

22  
Apr 84

# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

APRIL 1984

| Day | Freq  | Sta  | Type   | Start<br>(UT) | Time of<br>Maximum<br>(UT) | Duration<br>(Min) | Flux Density                                    |                                                 | Int | Remarks         |
|-----|-------|------|--------|---------------|----------------------------|-------------------|-------------------------------------------------|-------------------------------------------------|-----|-----------------|
|     |       |      |        |               |                            |                   | Peak<br>(10 <sup>-22</sup> W/m <sup>2</sup> Hz) | Mean<br>(10 <sup>-22</sup> W/m <sup>2</sup> Hz) |     |                 |
| 21  | 9400  | TYKW | 21 GRF | 0240.0        | 0251.0                     | 80.0              | 6.0                                             | 3.0                                             |     |                 |
|     | 3750  | TYKW | 21 GRF | 0242.0        | 0332.0                     | 95.0              | 4.0                                             | 2.0                                             |     |                 |
|     | 9400  | TYKW | 5 S    | 0243.0        | 0243.6                     | 3.0               | 6.0                                             | 2.0                                             |     |                 |
|     | 3750  | TYKW | 45 C   | 0243.0        | 0243.6                     | 2.0               | 5.0                                             | 2.0                                             |     |                 |
|     | 9400  | TYKW | 20 GRF | 0310.0        | 0330.0                     | 60.0              | 3.0                                             | 1.5                                             |     |                 |
|     | 2000  | TYKW | 32 ABS | 0400.0        | 0450.0                     | 90.0              | -2.0                                            | -1.0                                            |     |                 |
|     | 9400  | TYKW | 31 ABS | 0410.0        | 0440.0                     | 80.0              | -4.0                                            | -2.0                                            |     |                 |
|     | 3750  | TYKW | 31 ABS | 0417.0        | 0440.0                     | 90.0              | -2.0                                            | -1.0                                            |     |                 |
|     | 2950  | GORK | 21 GRF | 0458.2        | 0730.0                     | 300.0             | 6.7                                             | 3.0                                             |     |                 |
|     | 9100  | GORK | 21 GRF | 0523.0        | 0734.0                     | 322.00            | 12.0                                            |                                                 |     |                 |
|     | 410   | LEAR | 8 S    | 0611.1        | 0611.3                     | .4                | 29.0                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 2000  | TYKW | 21 GRF | 0630.0        | 0700.0                     | 120.0             | 2.0                                             | 1.0                                             |     |                 |
|     | 3750  | TYKW | 21 GRF | 0633.0        | 0705.0                     | 80.0              | 2.0                                             | 1.0                                             |     |                 |
|     | 410   | LEAR | 8 S    | 0633.8        | 0634.0                     | .3                | 13.0                                            |                                                 |     | QL=C ST=2 TYP=3 |
|     | 950   | GORK | 2 S/F  | 0724.6        | 0727.4                     | 4.9               | 5.0                                             |                                                 |     |                 |
|     | 3750  | TYKW | 5 S    | 0725.0        | 0725.4                     | 4.0               | 38.0                                            | 7.0                                             |     |                 |
|     | 113   | POTS | 4 S/F  | 0725.3        | 0725.7                     | 2.5               | 600.0                                           | 20.0                                            |     | III             |
|     | 2000  | TYKW | 45 C   | 0725.5        | 0727.4                     | 3.0               | 18.0                                            | 4.0                                             |     |                 |
|     | 1470  | POTS | 4 S/F  | 0725.5        | 0727.5                     | 7.0               | 10.0                                            |                                                 |     |                 |
|     | 650   | GORK | 45 C   | 0725.7        | 0726.2                     | 2.0               | 3.4                                             |                                                 |     |                 |
|     | 650   | GORK |        | 0725.7        | 0727.4                     |                   | 3.0                                             |                                                 |     |                 |
|     | 2902  | YUNN | 45 C   | 0725.7        | 0727.4                     | 8.7               | 41.0                                            |                                                 |     |                 |
|     | 3100  | BERN | 3 S    | 0726.0        | 0727.3                     | 4.0               | 54.0                                            |                                                 |     |                 |
|     | 3000  | IZMI | 5 S    | 0726.0        | 0727.5                     | 3.0               | 30.0                                            | 15.0                                            |     |                 |
|     | 8800  | ATHN | 47 GB  | 0726.5        | 0727.1                     | 2.8               | 64.0                                            |                                                 |     | QL=6 ST=2 TYP=5 |
|     | 9500  | POTS | 3 S    | 0726.5        | 0727.5                     | 3.5               | 25.0                                            |                                                 |     |                 |
|     | 2695  | ATHN | 4 S/F  | 0726.5        | 0727.6                     | 2.6               | 32.0                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 5200  | BERN | 3 S    | 0726.8        | 0727.3                     | 3.0               | 67.0                                            |                                                 |     |                 |
|     | 2695  | LEAR | 8 S    | 0726.8        | 0727.5                     |                   | 38.0                                            |                                                 |     | QL=6 ST=1 TYP=3 |
|     | 8400  | BERN | 3 S    | 0726.8        | 0727.6                     | 3.0               | 91.0                                            |                                                 |     |                 |
|     | 11800 | BERN | 3 S    | 0726.8        | 0727.7                     | 3.0               | 33.0                                            |                                                 |     |                 |
|     | 2950  | GORK | 3 S    | 0726.9        | 0727.4                     | 1.2               | 20.0                                            | 10.0                                            |     |                 |
|     | 9400  | TYKW | 5 S    | 0727.0        | 0727.7                     | 3.0               | 32.0                                            | 12.0                                            |     |                 |
|     | 1415  | ATHN | 8 S    | 0727.0        | 0727.6                     | 2.0               | 9.0                                             |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 9100  | GORK | 3 S    | 0727.0        | 0727.7                     | 2.1               | 30.0                                            | 15.0                                            |     |                 |
|     | 4995  | ATHN | 4 S/F  | 0727.1        | 0727.6                     | 2.2               | 35.0                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 2000  | TYKW | 29 PBI | 0728.5        |                            | 6.0               | 2.0                                             | 1.0                                             |     |                 |
|     | 3750  | TYKW | 29 PBI | 0729.0        |                            | 10.0              | 2.0                                             | 1.0                                             |     |                 |
|     | 9400  | TYKW | 29 PBI | 0730.0        |                            | 20.0              | 4.0                                             | 2.0                                             |     |                 |
|     | 204   | IZMI | 41 F   | 0732.0        | 0734.0                     | 2.2               | 97.0                                            |                                                 |     |                 |
|     | 245   | LEAR | 8 S    | 0836.5        | 0836.6                     | .1                | 26.0                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 410   | LEAR | 8 S    | 0836.5        | 0836.6                     | .1                | 39.0                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 113   | POTS | 8 S    | 1006.1        | 1006.2                     | .6                | 100.0                                           | 30.0                                            |     | III             |
|     | 204   | IZMI | 41 F   | 1006.3        | 1006.4                     | .8                | 230.0                                           |                                                 |     |                 |
|     | 234   | POTS | 8 S    | 1006.4        | 1006.4                     | .5                | 275.0                                           | 90.0                                            |     | III             |
|     | 808   | ONDR | 8 S    | 1015.6        | 1015.6                     | .1                | 24.0                                            |                                                 |     |                 |
|     | 113   | POTS | 41 F   | 1036.3        | 1039.3                     | 3.9               | 1400.0                                          | 20.0                                            |     | III             |
|     | 204   | IZMI | 41 F   | 1038.0        | 1039.8                     | 2.0               | 210.0                                           |                                                 |     |                 |
|     | 2950  | GORK | 1 S    | 1038.1        | 1039.6                     | 3.8               | 6.8                                             | 3.0                                             |     |                 |
|     | 245   | SGMR | 47 GB  | 1154.6        | 1154.8                     | 1.2               | 53.0                                            |                                                 |     | QL=6 ST=2 TYP=5 |
|     | 410   | SGMR | 47 GB  | 1154.8        | 1154.8                     | .3                | 300.0                                           |                                                 |     | QL=6 ST=2 TYP=5 |
|     | 2800  | OTTA | 21 GRF | 1155.0        | 1158.0                     | 65.0              | 2.6                                             | 1.4                                             |     |                 |
|     | 2800  | OTTA | 1 S    | 1202.5        | 1203.3                     | 2.0               | 1.8                                             | 0.9                                             |     |                 |
|     | 410   | SGMR | 8 S    | 1202.8        | 1203.0                     | .3                | 22.0                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 245   | SGMR | 8 S    | 1216.6        | 1217.0                     | .9                | 37.0                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 410   | SGMR | 8 S    | 1217.1        | 1217.5                     | .9                | 35.0                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 2800  | OTTA | 240 R  | 1305.0        | 1325.0                     | 20.0              | 2.6                                             | 1.3                                             |     |                 |
|     | 410   | SGMR | 8 S    | 1325.6        | 1325.6                     | .2                | 32.0                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 113   | POTS | 4 S/F  | 1406.2        | 1406.5                     | .9                | 175.0                                           | 20.0                                            |     | III             |
|     | 410   | SGMR | 47 GB  | 1406.6        | 1406.6                     | 1.0               | 80.0                                            |                                                 |     | QL=6 ST=2 TYP=5 |
|     | 2695  | PENT | 4 S/F  | 1454.0        | 1455.4                     | 6.0               | 22.0                                            | 6.0                                             |     |                 |
|     | 4995  | SGMR | 4 S/F  | 1454.3        | 1455.1                     | 2.5               | 18.0                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 1415  | ATHN | 47 GB  | 1454.3        | 1455.3                     | 2.8               | 64.0                                            |                                                 |     | QL=6 ST=2 TYP=5 |
|     | 5200  | BERN | 3 S    | 1454.3        | 1455.3                     | 3.0               | 25.0                                            |                                                 |     |                 |
|     | 3100  | BERN | 3 S    | 1454.3        | 1455.5                     | 3.0               | 28.0                                            |                                                 |     |                 |
|     | 2695  | ATHN | 4 S/F  | 1454.5        | 1455.5                     | 3.1               | 16.0                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 4995  | ATHN | 8 S    | 1454.6        | 1455.1                     | 1.0               | 21.0                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 1415  | SGMR | 47 GB  | 1454.6        | 1455.5                     | 2.0               | 100.0                                           |                                                 |     | QL=6 ST=2 TYP=5 |
|     | 2695  | SGMR | 8 S    | 1455.1        | 1455.5                     | .7                | 21.0                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 610   | SGMR | 47 GB  | 1455.5        | 1455.6                     | .3                | 67.0                                            |                                                 |     | QL=6 ST=2 TYP=5 |
|     | 410   | SGMR | 47 GB  | 1456.1        | 1456.6                     | 1.7               | 110.0                                           |                                                 |     | QL=6 ST=2 TYP=5 |

# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

23  
Apr 84

APRIL 1984

| Day | Freq  | Sta  | Type    | Start<br>(UT) | Time of<br>Maximum<br>(UT) | Duration<br>(Min) | Flux Density                                    |                | Int | Remarks         |
|-----|-------|------|---------|---------------|----------------------------|-------------------|-------------------------------------------------|----------------|-----|-----------------|
|     |       |      |         |               |                            |                   | Peak<br>(10 <sup>-22</sup> W/m <sup>2</sup> Hz) | Mean<br>(2 Hz) |     |                 |
| 21  | 2695  | PENT | 31A ABS | 1500.0        | 1525.0                     | 90.0              | -9.8                                            | -4.6           |     |                 |
|     | 2800  | OTTA | 2 S/F   | 1550.0        | 1551.0                     | 4.0               | 2.0                                             | 1.0            |     |                 |
|     | 410   | SGMR | 8 S     | 1635.1        | 1635.1                     | .4                | 40.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 410   | SGMR | 47 GB   | 1719.0        | 1719.1                     | 1.0               | 250.0                                           |                |     | QL=6 ST=2 TYP=5 |
|     | 610   | SGMR | 8 S     | 1719.3        | 1720.0                     | 1.3               | 34.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 4995  | SGMR | 8 S     | 1719.3        | 1720.0                     | 1.2               | 20.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 2800  | OTTA | 3 S     | 1719.5        | 1720.0                     | 5.0               | 13.4                                            | 4.4            |     |                 |
|     | 1415  | SGMR | 8 S     | 1719.6        | 1720.1                     | 1.0               | 22.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 2695  | SGMR | 8 S     | 1720.0        | 1720.1                     | .3                | 13.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 2800  | OTTA | 21 GRF  | 2010.0        | 2110.0                     | 300.00            | 18.4                                            | 4.4            |     |                 |
|     | 2800  | OTTA | 4 S/F   | 2012.0        | 2015.0                     | 12.0              | 58.0                                            | 14.6           |     |                 |
|     | 2800  | OTTA | 1 S     | 2039.0        | 2039.5                     | 2.0               | 2.4                                             | 1.2            |     |                 |
|     | 9400  | TYKW | 21 GRF  | 2100.0E       | 2100.0U                    | 190.00            | 55.0                                            | 22.00          |     | RAIN            |
|     | 3750  | TYKW | 21 GRF  | 2100.0E       | 2100.0U                    | 190.00            | 20.0                                            | 10.00          |     |                 |
|     | 2000  | TYKW | 21 GRF  | 2100.0E       | 2100.0U                    | 200.00            | 8.0                                             | 4.00           |     |                 |
|     | 2695  | PENT | 21 GRF  | 2140.0        | 0050.0                     | 250.00            | 36.0                                            |                |     |                 |
|     | 200   | HIRA | 46 C    | 2143.1        | 2143.3                     | 1.3               | 1100.0                                          | 270.0          |     | 0               |
|     | 100   | HIRA |         | 2143.3        | 2143.7                     |                   | 670.0                                           |                |     |                 |
|     | 100   | HIRA | 42 SER  | 2143.3        | 2149.5                     | 6.3               | 1050.0                                          |                |     |                 |
|     | 3750  | TYKW | 5 S     | 2205.0        | 2207.6                     | 6.0               | 12.0                                            | 4.0            |     |                 |
|     | 2000  | TYKW | 5 S     | 2206.0        | 2206.3                     | 1.0               | 7.0                                             | 1.5            |     |                 |
|     | 2800  | OTTA | 1 S     | 2206.0        | 2207.5                     | 4.0               | 5.2                                             | 2.0            |     |                 |
|     | 9400  | TYKW | 5 S     | 2206.5        | 2207.6                     | 3.5               | 29.0                                            | 7.0            |     |                 |
|     | 9400  | TYKW | 5 S     | 2301.0        | 2301.6                     | 2.0               | 12.0                                            | 4.0            |     |                 |
|     | 17000 | NOBE | 1 S     | 2301.4        | 2301.7                     | 1.0               | 16.0                                            |                |     | 0               |
|     | 9400  | TYKW | 29 PBI  | 2303.0        |                            | 5.0               | 2.0                                             | 1.0            |     |                 |
|     | 3750  | TYKW | 45 C    | 2307.0        | 2308.6                     | 6.0               | 7.0                                             | 3.0            |     |                 |
|     | 2000  | TYKW | 45 C    | 2307.5        | 2307.7                     | 5.5               | 2.5                                             | 1.0            |     |                 |
|     | 2695  | PENT | 2 S/F   | 2308.0        | 2309.0                     | 7.0               | 2.2                                             |                |     |                 |
|     | 9400  | TYKW | 20 GRF  | 2310.0        | 2321.0                     | 30.0              | 4.0                                             | 2.0            |     |                 |
|     | 3750  | TYKW | 29 PBI  | 2313.0        |                            | 30.0              | 1.5                                             | 0.7            |     |                 |
| 22  | 260   | ONDR | 44 NS   | 0559.0E       |                            | 488.00            | 77.0                                            |                |     |                 |
|     | 245   | SGMR | 43 NS   | 1345.3        | 1407.6                     |                   | 60.0                                            |                |     | QL=6 ST=3 TYP=1 |
|     | 410   | SGMR | 44 NS   | 1346.0E       | 1426.0                     |                   | 17.0                                            |                |     | QL=6 ST=3 TYP=1 |
|     | 200   | HIRA | 44 NS   | 1954.0E       | 2100.0                     | 130.00            | 10.0                                            | 4.0            |     | 0               |
|     | 245   | LEAR | 44 NS   | 2252.0E       | 2253.6                     | 656.00            | 75.0                                            |                |     | QL=4 ST=1 TYP=1 |
|     | 9400  | TYKW | 5 S     | 0021.5        | 0022.3                     | 4.0               | 10.0                                            | 3.0            |     |                 |
|     | 15400 | LEAR | 8 S     | 0022.1        | 0022.5                     | .7                | 9.0                                             |                |     | QL=6 ST=2 TYP=3 |
|     | 8800  | LEAR | 8 S     | 0022.3        | 0022.5                     | .3                | 11.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 2695  | PENT | 45 C    | 0034.0        | 0053.0                     | 39.0              | 91.0                                            | 32.6           |     |                 |
|     | 9400  | TYKW | 20 GRF  | 0040.0        | 0100.0                     | 65.0              | 6.0                                             | 3.0            |     | INTERFERENCE    |
|     | 1000  | TYKW | 45 C    | 0144.6        | 0144.8                     | 1.0               | 40.0                                            | 6.0            |     |                 |
|     | 1000  | TYKW | 42 SER  | 0149.0        | 0149.2                     | 9.0               | 60.0                                            | 2.0            |     |                 |
|     | 9400  | TYKW | 21 GRF  | 0212.0        | 0223.0                     | 65.0              | 4.0                                             | 2.0            |     | RAIN            |
|     | 9400  | TYKW | 45 C    | 0231.5        | 0232.8                     | 2.5               | 6.0                                             | 2.0            |     |                 |
|     | 35000 | NOBE | 1 S     | 0231.8        | 0232.8                     | 2.0               | 48.0                                            |                |     | 0               |
|     | 17000 | NOBE | 1 S     | 0231.8        | 0232.8                     | 72.3              | 33.0                                            |                |     | 0               |
|     | 15400 | LEAR | 8 S     | 0231.8        | 0233.0                     | 2.0               | 32.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 8800  | LEAR | 8 S     | 0232.8        | 0233.0                     | .3                | 11.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 17000 | NOBE | 29 PBI  | 0234.3        | 0234.3                     | 5.0               | 8.0                                             |                |     | 0               |
|     | 3750  | TYKW | 21 GRF  | 0245.0        | 0259.0                     | 45.0              | 3.0                                             | 1.5            |     |                 |
|     | 3750  | TYKW | 5 S     | 0247.0        | 0247.3                     | 2.0               | 2.0                                             | 0.7            |     |                 |
|     | 500   | HIRA | 8 S     | 0254.7        | 0254.7                     | .2                | 900.0                                           |                |     | WR              |
|     | 9400  | TYKW | 5 S     | 0321.0        | 0322.0                     | 2.0               | 12.0                                            | 3.0            |     |                 |
|     | 8800  | LEAR | 4 S/F   | 0321.1        | 0322.0                     | 3.0               | 10.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 17000 | NOBE | 1 S     | 0321.5        | 0322.0                     | 1.5               | 37.0                                            |                |     | L               |
|     | 35000 | NOBE | 1 S     | 0321.6        | 0321.8                     | .8                | 36.0                                            |                |     | 0               |
|     | 15400 | LEAR | 8 S     | 0321.8        | 0322.0                     | .7                | 34.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 9400  | TYKW | 29 PBI  | 0323.0        |                            | 25.0              | 3.0                                             | 1.5            |     |                 |
|     | 9400  | TYKW | 21 GRF  | 0355.0        | 0440.0                     | 125.0             | 6.0                                             | 3.0            |     | RAIN            |
|     | 9100  | GORK | 21 GRF  | 0420.5        | 0705.0                     | 379.00            | 14.0                                            |                |     |                 |
|     | 2840  | PEKG | 3 S     | 0424.0        | 0427.2                     | 6.0               | 38.5                                            | 8.0            |     |                 |
|     | 2950  | GORK | 21 GRF  | 0424.4        | 0430.0                     | 72.0              | 8.4                                             | 4.0            |     |                 |
|     | 3750  | TYKW | 5 S     | 0425.0        | 0427.3                     | 4.0               | 19.0                                            | 5.0            |     |                 |
|     | 2000  | TYKW | 5 S     | 0425.0        | 0427.3                     | 7.0               | 25.0                                            | 6.0            |     |                 |
|     | 1000  | TYKW | 5 S     | 0425.0        | 0427.3                     | 4.0               | 5.0                                             | 1.5            |     |                 |
|     | 2902  | YUNN | 5 S     | 0425.3        | 0427.2                     | 3.5               | 44.0                                            |                |     |                 |
|     | 2695  | LEAR | 8 S     | 0426.8        | 0427.3                     | 1.0               | 35.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 1415  | ATHN | 8 S     | 0427.0        | 0427.3                     | 1.5               | 13.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 1415  | LEAR | 8 S     | 0427.0        | 0427.3                     | .6                | 17.0                                            |                |     | QL=6 ST=2 TYP=3 |



24  
Apr 84

# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

APRIL 1984

| Day | Freq  | Sta  | Type   | Start<br>(UT) | Time of<br>Maximum<br>(UT) | Duration<br>(Min) | Flux Density                                    |                | Int | Remarks         |
|-----|-------|------|--------|---------------|----------------------------|-------------------|-------------------------------------------------|----------------|-----|-----------------|
|     |       |      |        |               |                            |                   | Peak<br>(10 <sup>-22</sup> W/m <sup>2</sup> Hz) | Mean<br>(2 Hz) |     |                 |
| 22  | 2902  | YUNN | 29 PBI | 0428.7        |                            | 44.6              | 7.0                                             |                |     |                 |
|     | 3750  | TYKW | 29 PBI | 0429.0        |                            | 60.0              | 4.0                                             | 2.0            |     |                 |
|     | 1000  | TYKW | 29 PBI | 0429.0        |                            | 10.0              | 1.0                                             | 0.5            |     |                 |
|     | 2840  | PEKG | 29 PBI | 0430.0        |                            | 31.0              | 4.8                                             | 3.5            |     |                 |
|     | 2000  | TYKW | 30 PBI | 0432.0        |                            | 60.0              | 2.0                                             | 1.0            |     |                 |
|     | 2000  | TYKW | 5 S    | 0434.0        | 0440.0                     | 20.0              | 2.0                                             | 0.7            |     |                 |
|     | 15400 | LEAR | 8 S    | 0448.8        | 0448.8                     | .3                | 16.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 9400  | TYKW | 5 S    | 0457.0        | 0458.5                     | 5.0               | 4.0                                             | 1.0            |     |                 |
|     | 17000 | NOBE | 1 S    | 0457.9        | 0458.3                     | 2.0               | 11.0                                            |                |     | 0               |
|     | 1000  | TYKW | 45 C   | 0524.0        | 0525.3                     | 1.5               | 55.0                                            | 2.0            |     |                 |
|     | 9400  | TYKW | 5 S    | 0547.0        | 0547.8                     | 2.0               | 14.0                                            | 3.0            |     |                 |
|     | 9100  | GORK | 1 S    | 0547.4        | 0547.9                     | 1.3               | 13.0                                            | 5.0            |     |                 |
|     | 17000 | NOBE | 1 S    | 0547.5        | 0547.8                     | 1.5               | 39.0                                            |                |     | 0               |
|     | 15400 | LEAR | 8 S    | 0547.6        | 0547.8                     | 1.7               | 35.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 8800  | LEAR | 8 S    | 0547.6        | 0548.0                     | 1.7               | 13.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 9400  | TYKW | 29 PBI | 0549.0        |                            | 6.0               | 2.0                                             | 1.0            |     |                 |
|     | 9400  | TYKW | 21 GRF | 0615.0        | 0715.0                     | 125.0             | 4.0                                             | 2.0            |     | RAIN            |
|     | 2840  | PEKG | 1 S    | 0624.0        | 0624.4                     | 1.4               | 4.8                                             | 2.3            |     |                 |
|     | 3750  | TYKW | 5 S    | 0624.0        | 0624.4                     | 2.0               | 4.0                                             | 1.5            |     |                 |
|     | 9400  | TYKW | 5 S    | 0624.0        | 0624.4                     | 2.0               | 6.0                                             | 2.0            |     |                 |
|     | 2000  | TYKW | 5 S    | 0624.0        | 0624.5                     | 2.0               | 2.5                                             | 0.7            |     |                 |
|     | 536   | ONDR | 8 S    | 0624.0        | 0624.5                     | 1.0               | 39.0                                            |                |     |                 |
|     | 2950  | GORK | 1 S    | 0624.2        | 0624.5                     | 1.7               | 3.3                                             | 1.5            |     |                 |
|     | 9100  | GORK | 1 S    | 0624.2        | 0624.5                     | .7                | 5.0                                             | 2.0            |     |                 |
|     | 650   | GORK | 4 S/F  | 0624.3        | 0624.5                     | .4                | 23.0                                            | 10.0           |     |                 |
|     | 3750  | TYKW | 21 GRF | 0630.0        | 0714.0                     | 100.0             | 4.0                                             | 2.0            |     |                 |
|     | 2000  | TYKW | 21 GRF | 0640.0        | 0715.0                     | 110.0             | 2.0                                             | 1.0            |     |                 |
|     | 2950  | GORK | 21 GRF | 0652.0        | 0706.0                     | 49.0              | 5.9                                             | 2.6            |     |                 |
|     | 9400  | TYKW | 45 C   | 0703.0        | 0704.2                     | 7.0               | 6.0                                             | 2.0            |     |                 |
|     | 2902  | YUNN | 5 S    | 0703.4        | 0705.1                     | 5.4               | 20.0                                            |                |     |                 |
|     | 2000  | TYKW | 45 C   | 0703.5        | 0704.3                     | 3.5               | 10.0                                            | 2.0            |     |                 |
|     | 1470  | POTS | 40 F   | 0703.5        | 0705.1                     | 4.0               | 10.0                                            |                |     |                 |
|     | 204   | IZMI | 5 S    | 0703.6        | 0703.8                     | 3.0               | 500.0                                           | 250.0          |     |                 |
|     | 200   | HIRA | 46 C   | 0703.7        | 0705.5                     | 2.3               | 140.0                                           | 35.0           |     | WR              |
|     | 3750  | TYKW | 45 C   | 0704.0        | 0704.9                     | 3.0               | 4.0                                             | 1.5            |     |                 |
|     | 1000  | TYKW | 45 C   | 0704.0        | 0705.1                     | 2.5               | 14.0                                            | 2.0            |     |                 |
|     | 500   | HIRA | 6 S    | 0704.0        | 0704.9                     | 2.0               | 53.0                                            | 25.0           |     | WR              |
|     | 536   | ONDR | 46 C   | 0704.0        | 0705.5                     | 3.0               | 51.0                                            |                |     |                 |
|     | 950   | GORK | 2 S/F  | 0704.1        | 0705.2                     | 2.1               | 6.0                                             |                |     |                 |
|     | 650   | GORK | 41 F   | 0704.3        | 0705.2                     | 3.5               | 55.0                                            |                |     |                 |
|     | 650   | GORK |        | 0704.3        | 0707.6                     |                   | 22.0                                            |                |     |                 |
|     | 2950  | GORK | 1 S    | 0704.8        | 0704.9                     | .5                | 18.5                                            | 9.0            |     |                 |
|     | 2695  | LEAR | 8 S    | 0704.8        | 0705.0                     | .3                | 16.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 204   | IZMI | 8 S    | 0944.6        | 0944.6                     | .1                | 200.0                                           | 100.0          |     |                 |
|     | 234   | POTS | 8 S    | 0944.6        | 0944.7                     | .3                | 140.0                                           | 50.0           |     | !!!             |
|     | 113   | POTS | 4 S/F  | 0944.6        | 0944.9                     | .8                | 1400.0                                          | 200.0          |     | !!!             |
|     | 204   | IZMI | 41 F   | 1015.0        | 1022.0                     | 16.0              | 17.0                                            |                |     |                 |
|     | 536   | ONDR | 40 F   | 1157.0        | 1239.0                     | 47.0              | 12.0                                            |                |     |                 |
|     | 2800  | OTTA | 23 GRF | 1250.0        | 1304.0                     | 27.0              | 2.4                                             | 1.2            |     |                 |
|     | 2800  | OTTA | 1 S    | 1309.0        | 1310.5                     | 2.5               | 2.4                                             | 1.2            |     |                 |
|     | 9500  | POTS | 1 S    | 1309.5        | 1310.6                     | 2.0               | 7.0                                             |                |     |                 |
|     | 1470  | POTS | 4 S/F  | 1309.5        | 1310.6                     | 1.5               | 8.0                                             |                |     |                 |
|     | 33    | UPIC | 46 C   | 1340.0        | 1340.5                     | 2.9               |                                                 |                |     |                 |
|     | 1470  | POTS | 42 SER | 1340.0        | 1341.0                     | 12.0              | 13.0                                            |                |     |                 |
|     | 113   | POTS | 4 S/F  | 1340.0        | 1341.1                     | 5.4               | 160.0                                           | 10.0           |     | !!!             |
|     | 808   | ONDR | 1 S    | 1340.0        | 1341.5                     | 4.5               | 27.0                                            |                |     |                 |
|     | 29    | UPIC | 45 C   | 1340.5        | 1340.8                     | 2.4               |                                                 |                |     |                 |
|     | 245   | SGMR | 47 GB  | 1340.5        | 1340.8                     | 2.6               | 139.0                                           |                |     | QL=6 ST=2 TYP=5 |
|     | 2800  | OTTA | 2 S/F  | 1340.5        | 1341.1                     | 2.0               | 7.4                                             | 4.0            |     |                 |
|     | 1415  | ATHN | 4 S/F  | 1340.5        | 1341.1                     | 4.8               | 9.0                                             |                |     | QL=3 ST=2 TYP=3 |
|     | 234   | POTS | 4 S/F  | 1340.7        | 1340.7                     | .2                | 190.0                                           | 9.0            |     | !!!             |
|     | 2800  | OTTA | 30 PBI | 1342.5        | 1342.5                     | 12.0              | 2.4                                             | 1.2            |     |                 |
|     | 2800  | OTTA | 1 S    | 1344.5        | 1345.3                     | 2.0               | 5.4                                             | 1.8            |     |                 |
|     | 808   | ONDR | 1 S    | 1344.5        | 1345.5                     | 3.0               | 47.0                                            |                |     |                 |
|     | 245   | SGMR | 8 S    | 1344.8        | 1345.3                     | .8                | 37.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 536   | ONDR | 8 S    | 1345.0        | 1345.5                     | 1.5               | 28.0                                            |                |     |                 |
|     | 410   | SGMR | 8 S    | 1345.1        | 1345.1                     | .2                | 18.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 610   | SGMR | 8 S    | 1345.1        | 1345.3                     | .5                | 43.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 2800  | OTTA | 1 S    | 1347.5        | 1348.0                     | 2.0               | 1.4                                             | 0.7            |     |                 |
|     | 4995  | ATHN | 20 GRF | 1400.1        | 1401.1                     | 1.7               | 13.0                                            |                |     | QL=5 ST=2 TYP=2 |
|     | 8800  | ATHN | 20 GRF | 1400.1        | 1401.1                     | 1.7               | 28.0                                            |                |     | QL=5 ST=2 TYP=2 |

# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

25  
Apr 84

APRIL 1984

| Day | Freq  | Sta  | Type   | Start<br>(UT) | Time of<br>Maximum<br>(UT) | Duration<br>(Min) | Flux Density<br>Peak<br>(10 <sup>-22</sup> W/m <sup>2</sup> Hz) | Mean<br>(10 <sup>-22</sup> W/m <sup>2</sup> Hz) | Int | Remarks         |
|-----|-------|------|--------|---------------|----------------------------|-------------------|-----------------------------------------------------------------|-------------------------------------------------|-----|-----------------|
| 22  | 9500  | POTS | 4 S/F  | 1400.2        | 1401.0                     | 1.3               | 17.0                                                            |                                                 |     |                 |
|     | 8800  | SGMR | 8 S    | 1400.8        | 1400.8                     | .5                | 21.0                                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 4995  | SGMR | 8 S    | 1401.0        | 1401.1                     | .3                | 11.0                                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 2800  | OTTA | 21 GRF | 1410.0        | 1450.0                     | 170.0             | 3.2                                                             | 1.6                                             |     |                 |
|     | 33    | UPIC | 45 C   | 1446.6        | 1446.8                     | 1.8               |                                                                 |                                                 |     |                 |
|     | 33    | UPIC | 3 S    | 1447.0        | 1447.1                     | .4                |                                                                 |                                                 |     |                 |
|     | 2800  | OTTA | 8 S    | 1448.1        | 1448.1                     | .1                | 7.4                                                             |                                                 |     |                 |
|     | 2800  | OTTA | 23 GRF | 1720.0        | 1950.0                     | 200.0             | 2.8                                                             | 1.8                                             |     |                 |
|     | 2800  | OTTA | 2 S/F  | 1747.5        | 1748.5                     | 2.0               | 9.8                                                             | 3.6                                             |     |                 |
|     | 8800  | SGMR | 8 S    | 1748.1        | 1748.3                     | .4                | 15.0                                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 1415  | SGMR | 8 S    | 1748.3        | 1748.5                     | .3                | 15.0                                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 610   | SGMR | 8 S    | 1748.5        | 1748.5                     | .5                | 13.0                                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 2800  | OTTA | 8 S    | 1916.7        | 1916.7                     | .3                | 7.0                                                             |                                                 |     |                 |
|     | 17000 | NOBE | 1 S    | 2152.8        | 2153.2                     | 1.0               | 16.0                                                            |                                                 |     | 0               |
|     | 2000  | TYKW | 47 GB  | 2213.0        | 2214.9                     | 5.0               | 900.0                                                           | 50.0                                            |     |                 |
|     | 9400  | TYKW | 45 C   | 2213.5        | 2214.6                     | 4.5               | 265.0                                                           | 55.0                                            |     |                 |
|     | 3750  | TYKW | 45 C   | 2213.5        | 2214.7                     | 4.5               | 147.0                                                           | 30.0                                            |     |                 |
|     | 17000 | NOBE | 7 C    | 2213.7        | 2214.6                     | 2.1               | 350.0                                                           |                                                 |     | L               |
|     | 2800  | OTTA | 4 S/F  | 2213.7        | 2214.7                     | 5.3               | 138.0                                                           | 29.0                                            |     |                 |
|     | 15400 | SGMR | 47 GB  | 2213.8        | 2214.6                     | 2.8               | 400.0                                                           |                                                 |     | QL=6 ST=2 TYP=5 |
|     | 8800  | SGMR | 47 GB  | 2213.8        | 2214.6                     | 2.8               | 219.0                                                           |                                                 |     | QL=6 ST=2 TYP=5 |
|     | 1000  | TYKW | 45 C   | 2214.0        | 2214.4                     | 4.0               | 164.0                                                           | 5.0                                             |     |                 |
|     | 4995  | SGMR | 47 GB  | 2214.0        | 2214.6                     | 2.8               | 189.0                                                           |                                                 |     | QL=6 ST=2 TYP=5 |
|     | 2695  | SGMR | 47 GB  | 2214.1        | 2214.6                     | 3.0               | 169.0                                                           |                                                 |     | QL=6 ST=2 TYP=5 |
|     | 1415  | SGMR | 47 GB  | 2214.1        | 2215.0                     | 2.0               | 380.0                                                           |                                                 |     | QL=6 ST=2 TYP=5 |
|     | 17000 | NOBE | 29 PBI | 2215.8        | 2216.4                     | 20.0              | 32.0                                                            |                                                 |     | L               |
|     | 2000  | TYKW | 30 PBI | 2218.0        |                            | 31.0              | 6.0                                                             | 4.0                                             |     |                 |
|     | 1000  | TYKW | 30 PBI | 2218.0        |                            | 10.0              | 1.0                                                             | 0.5                                             |     |                 |
|     | 3750  | TYKW | 30 PBI | 2218.0        |                            | 27.0              | 7.0                                                             | 6.0                                             |     |                 |
|     | 9400  | TYKW | 30 PBI | 2218.0        |                            | 25.0              | 14.0                                                            | 10.0                                            |     |                 |
|     | 2800  | OTTA | 29 PBI | 2219.0        | 2219.0                     | 22.0              | 7.0                                                             | 2.4                                             |     |                 |
|     | 9400  | TYKW | 5 S    | 2220.5        | 2221.4                     | 3.5               | 22.0                                                            | 6.0                                             |     |                 |
|     | 3750  | TYKW | 45 C   | 2220.5        | 2221.4                     | 2.5               | 4.0                                                             | 1.5                                             |     |                 |
|     | 1000  | TYKW | 45 C   | 2220.8        | 2221.8                     | 2.0               | 7.0                                                             | 2.0                                             |     |                 |
|     | 17000 | NOBE | 28 PRE | 2235.6        | 2249.5                     | 13.9              | 32.0                                                            |                                                 |     | 0               |
|     | 9400  | TYKW | 28 PRE | 2243.0        | 2249.0                     | 6.0               | 18.0                                                            | 12.0                                            |     |                 |
|     | 3750  | TYKW | 28 PRE | 2245.0        | 2249.0                     | 4.0               | 9.0                                                             | 7.0                                             |     |                 |
|     | 9400  | TYKW | 37 GB  | 2249.0        | 2253.7                     | 16.0              | 1050.0                                                          | 320.0                                           |     |                 |
|     | 3750  | TYKW | 45 C   | 2249.0        | 2253.8                     | 16.0              | 355.0                                                           | 120.0                                           |     |                 |
|     | 1000  | TYKW | 45 C   | 2249.0        | 2253.9                     | 16.0              | 34.0                                                            | 11.0                                            |     |                 |
|     | 2000  | TYKW | 45 C   | 2249.0        | 2255.1                     | 16.0              | 235.0                                                           | 50.0                                            |     |                 |
|     | 500   | HIRA | 45 C   | 2249.3        | 2252.1                     | 9.0               | 110.0                                                           | 10.0                                            |     | 0               |
|     | 35000 | NOBE | 45 C   | 2249.5        | 2253.7                     | 9.8               | 1040.0                                                          |                                                 |     | L               |
|     | 80000 | NOBE | 45 C   | 2249.5        | 2253.7                     | 9.8               | 150.0                                                           |                                                 |     |                 |
|     | 17000 | NOBE | 45 C   | 2249.5        | 2253.8                     | 9.8               | 1410.0                                                          |                                                 |     | L               |
|     | 2695  | PENT | 47 GB  | 2249.5        | 2254.0                     | 15.5              | 840.0                                                           | 98.0                                            |     |                 |
|     | 8800  | SGMR | 49 GB  | 2249.6        | 2250.6                     | 7.20              | 510.0                                                           |                                                 |     | QL=4 ST=3 TYP=6 |
|     | 15400 | SGMR | 49 GB  | 2249.6        | 2252.6                     | 21.40             | 1199.0                                                          |                                                 |     | QL=4 ST=3 TYP=6 |
|     | 4995  | SGMR | 47 GB  | 2249.8        | 2250.6                     | 7.70              | 150.0                                                           |                                                 |     | QL=4 ST=3 TYP=5 |
|     | 2695  | SGMR | 47 GB  | 2251.3        | 2252.6                     | 6.30              | 110.0                                                           |                                                 |     | QL=2 ST=3 TYP=5 |
|     | 610   | SGMR | 4 S/F  | 2253.1        | 2253.8                     | 4.20              | 41.0                                                            |                                                 |     | QL=4 ST=3 TYP=3 |
|     | 8800  | LEAR | 49 GB  | 2253.5E       | 2255.5                     | 5.30              | 1000.0                                                          |                                                 |     | QL=4 ST=2 TYP=6 |
|     | 2695  | LEAR | 47 GB  | 2253.6E       | 2254.0                     | 5.20              | 460.0                                                           |                                                 |     | QL=4 ST=2 TYP=5 |
|     | 1415  | LEAR | 47 GB  | 2253.6E       | 2254.3                     | 5.40              | 76.0                                                            |                                                 |     | QL=4 ST=2 TYP=5 |
|     | 4995  | LEAR | 49 GB  | 2253.6E       | 2255.3                     | 5.20              | 520.0                                                           |                                                 |     | QL=4 ST=2 TYP=6 |
|     | 15400 | LEAR | 49 GB  | 2254.8E       | 2255.6                     | 3.80              | 710.0                                                           |                                                 |     | QL=4 ST=2 TYP=6 |
|     | 17000 | NOBE | 29 PBI | 2259.3        | 2259.3                     | 40.0              | 84.0                                                            |                                                 |     | 0               |
|     | 80000 | NOBE | 29 PBI | 2259.3        | 2259.3                     | 20.0              | 15.0                                                            |                                                 |     |                 |
|     | 35000 | NOBE | 29 PBI | 2259.3        | 2259.3                     | 20.0              | 70.0                                                            |                                                 |     | 0               |
|     | 9400  | TYKW | 30 PBI | 2305.0        |                            | 290.0             | 43.0                                                            | 10.0                                            |     |                 |
|     | 2000  | TYKW | 30 PBI | 2305.0        |                            | 320.0             | 8.0                                                             | 3.0                                             |     |                 |
|     | 1000  | TYKW | 30 PBI | 2305.0        |                            | 145.0             | 3.0                                                             | 1.5                                             |     |                 |
|     | 3750  | TYKW | 30 PBI | 2305.0        |                            | 500.0             | 22.0                                                            | 6.0                                             |     |                 |
|     | 2695  | PENT | 29 PBI | 2305.0        |                            | 55.0              | 11.4                                                            | 3.8                                             |     |                 |
|     | 17000 | NOBE | 1 S    | 2347.1        | 2347.2                     | .7                | 20.0                                                            |                                                 |     | 0               |
|     | 1000  | TYKW | 28 PRE | 2350.0        | 0019.0                     | 29.0              | 2.0                                                             | 1.0                                             |     |                 |
| 23  | 410   | LEAR | 43 NS  | 0018.1        | 0025.8                     | 569.90            | 20.0                                                            |                                                 |     | QL=6 ST=2 TYP=1 |
|     | 204   | IZMI | 43 NS  | 0600.0        |                            | 360.0             | 20.0                                                            |                                                 |     |                 |
|     | 260   | ONDR | 44 NS  | 0615.0E       |                            | 468.00            | 91.0                                                            |                                                 |     |                 |
|     | 29    | UPIC | 43 NS  | 0739.5        |                            | 339.00            |                                                                 |                                                 |     |                 |

26  
Apr 84

# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

APRIL 1984

| Day | Freq  | Sta  | Type   | Start<br>(UT) | Time of<br>Maximum<br>(UT) | Duration<br>(Min) | Flux Density                                    |                | Int | Remarks         |
|-----|-------|------|--------|---------------|----------------------------|-------------------|-------------------------------------------------|----------------|-----|-----------------|
|     |       |      |        |               |                            |                   | Peak<br>(10 <sup>-22</sup> W/m <sup>2</sup> Hz) | Mean<br>(2 Hz) |     |                 |
| 23  | 33    | UPIC | 43 NS  | 0740.0        |                            | 338.3             |                                                 |                |     |                 |
|     | 245   | SGMR | 43 NS  | 1151.0        | 2029.3                     | 681.00            | 500.0                                           |                |     | QL=6 ST=2 TYP=1 |
|     | 2000  | TYKW | 45 C   | 0018.0        | 0052.9                     | 57.0              | 64.0                                            | 19.0           |     |                 |
|     | 1000  | TYKW | 45 C   | 0019.0        | 0020.5                     | 46.0              | 18.0                                            | 4.0            |     |                 |
|     | 1000  | TYKW |        | 0019.0        | 0052.9                     |                   | 14.0                                            |                |     |                 |
|     | 3750  | TYKW | 45 C   | 0019.0        | 0052.9                     | 55.0              | 135.0                                           | 40.0           |     |                 |
|     | 9400  | TYKW | 28 PRE | 0020.0        | 0029.0                     | 9.0               | 4.0                                             | 2.0            |     |                 |
|     | 2930  | VORO | 42 SER | 0022.0        | 0052.0                     | 48.0              | 104.0                                           |                |     |                 |
|     | 2695  | LEAR | 47 GB  | 0025.6        | 0053.0                     | 54.40             | 110.0                                           |                |     | QL=6 ST=2 TYP=5 |
|     | 1415  | LEAR | 4 S/F  | 0027.5        | 0053.1                     | 52.70             | 41.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 17000 | NOBE | 20 GRF | 0028.0        | 0052.2                     | 70.0              | 48.0                                            |                |     | L               |
|     | 4995  | LEAR | 47 GB  | 0028.0        | 0053.0                     | 52.00             | 119.0                                           |                |     | QL=6 ST=2 TYP=5 |
|     | 9400  | TYKW | 45 C   | 0029.0        | 0053.0                     | 40.0              | 100.0                                           | 35.0           |     |                 |
|     | 15400 | LEAR | 47 GB  | 0029.1        | 0053.0                     | 50.90             | 58.0                                            |                |     | QL=6 ST=2 TYP=5 |
|     | 8800  | LEAR | 47 GB  | 0029.5        | 0053.0                     | 50.50             | 97.0                                            |                |     | QL=6 ST=2 TYP=5 |
|     | 200   | HIRA | 27 RF  | 0032.0        | 0046.0                     | 26.0              | 38.0                                            | 9.0            |     |                 |
|     | 1000  | TYKW | 29 PBI | 0105.0        |                            | 15.0              | 3.0                                             | 1.0            |     |                 |
|     | 9400  | TYKW | 30 PBI | 0109.0        |                            | 150.0             | 32.0                                            | 16.0           |     |                 |
|     | 3750  | TYKW | 30 PBI | 0114.0        |                            | 170.0             | 20.0                                            | 10.0           |     |                 |
|     | 2000  | TYKW | 30 PBI | 0115.0        |                            | 170.0             | 6.0                                             | 2.5            |     |                 |
|     | 9400  | TYKW | 45 C   | 0122.0        | 0125.2                     | 15.0              | 11.0                                            | 3.0            |     |                 |
|     | 9400  | TYKW | 5 S    | 0141.0        | 0141.8                     | 8.0               | 5.0                                             | 1.5            |     |                 |
|     | 3750  | TYKW | 21 GRF | 0150.0        | 0206.0                     | 120.0             | 8.0                                             | 5.0            |     |                 |
|     | 9400  | TYKW | 45 C   | 0152.5        | 0205.0                     | 47.5              | 19.0                                            | 13.0           |     |                 |
|     | 2000  | TYKW | 45 C   | 0153.0        | 0201.0                     | 9.0               | 6.0                                             | 2.0            |     |                 |
|     | 2000  | TYKW | 21 GRF | 0153.0        | 0235.0                     | 120.0             | 6.0                                             | 3.0            |     |                 |
|     | 17000 | NOBE | 20 GRF | 0153.5        | 0159.9                     | 49.0              | 32.0                                            |                |     | 0               |
|     | 15400 | LEAR | 8 S    | 0159.6        | 0200.1                     | .5                | 18.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 1000  | TYKW | 5 S    | 0200.5        | 0201.1                     | 1.5               | 1.0                                             | 0.3            |     |                 |
|     | 2000  | TYKW | 29 PBI | 0202.0        |                            | 15.0              | 2.0                                             | 1.0            |     |                 |
|     | 1000  | TYKW | 20 GRF | 0220.0        | 0240.0                     | 80.0              | 1.0                                             | 0.5            |     |                 |
|     | 9400  | TYKW | 30 PBI | 0240.0        |                            | 55.0              | 10.0                                            | 5.0            |     |                 |
|     | 610   | LEAR | 4 S/F  | 0242.1        | 0243.5                     | 4.5               | 15.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 3750  | TYKW | 45 C   | 0252.5        | 0253.1                     | 11.0              | 4.0                                             | 1.5            |     |                 |
|     | 9400  | TYKW | 5 S    | 0320.0        | 0320.2                     | 0.5               | 6.0                                             | 2.0            |     |                 |
|     | 9400  | TYKW | 5 S    | 0321.8        | 0322.0                     | 0.7               | 4.0                                             | 1.5            |     |                 |
|     | 9400  | TYKW | 45 C   | 0323.0        | 0323.3                     | 1.5               | 8.0                                             | 2.5            |     |                 |
|     | 2950  | GORK | 23 GRF | 0404.0E       | 0432.0                     | 230.00            | 11.4                                            |                |     |                 |
|     | 910   | GORK | 23 GRF | 0413.0        | 0610.4                     | 467.00            | 34.0                                            |                |     |                 |
|     | 9400  | TYKW | 28 PRE | 0417.0        | 0418.6                     | 10.0              | 3.0                                             | 2.0            |     |                 |
|     | 17000 | NOBE | 21 GRF | 0424.0        | 0432.3                     | 190.0             | 16.0                                            |                |     | R               |
|     | 3750  | TYKW | 45 C   | 0426.0        | 0432.3                     | 11.0              | 12.0                                            | 5.0            |     |                 |
|     | 9400  | TYKW | 45 C   | 0427.0        | 0433.1                     | 18.0              | 21.0                                            | 13.0           |     |                 |
|     | 2000  | TYKW | 45 C   | 0430.0        | 0432.4                     | 4.0               | 4.5                                             | 1.5            |     |                 |
|     | 8800  | LEAR | 4 S/F  | 0431.3        | 0432.6                     | 3.0               | 19.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 4995  | LEAR | 8 S    | 0431.5        | 0433.1                     | 2.0               | 16.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 2000  | TYKW | 29 PBI | 0434.0        |                            | 25.0              | 1.0                                             | 0.5            |     |                 |
|     | 3750  | TYKW | 29 PBI | 0437.0        |                            | 25.9              | 5.0                                             | 2.0            |     |                 |
|     | 9400  | TYKW | 29 PBI | 0445.0        |                            | 20.0              | 8.0                                             | 4.0            |     |                 |
|     | 3750  | TYKW | 28 PRE | 0508.0        | 0510.5                     | 4.0               | 3.0                                             | 1.0            |     |                 |
|     | 9400  | TYKW | 45 C   | 0509.0        | 0509.6                     | 3.0               | 7.0                                             | 3.0            |     |                 |
|     | 2000  | TYKW | 45 C   | 0510.0        | 0510.6                     | 2.0               | 4.0                                             | 1.0            |     |                 |
|     | 2902  | YUNN | 45 C   | 0511.7        | 0515.3                     | 9.5               | 107.0                                           |                |     |                 |
|     | 2000  | TYKW | 45 C   | 0512.0        | 0515.5                     | 8.0               |                                                 | 14.0           |     |                 |
|     | 3750  | TYKW | 45 C   | 0512.0        | 0515.6                     | 8.0               | 90.0                                            | 25.0           |     |                 |
|     | 9400  | TYKW | 45 C   | 0512.0        | 0515.6                     | 7.0               | 57.0                                            | 25.0           |     |                 |
|     | 3100  | CRIM | 3 S    | 0512.0        | 0515.1                     | 8.0               | 96.0                                            | 32.0           |     |                 |
|     | 5200  | BERN | 4 S/F  | 0512.1        | 0514.6                     | 7.0               | 112.0                                           |                |     |                 |
|     | 11800 | BERN | 4 S/F  | 0512.1        | 0515.1                     | 7.0               | 101.0                                           |                |     |                 |
|     | 8400  | BERN | 4 S/F  | 0512.1        | 0515.1                     | 7.0               | 80.0                                            |                |     |                 |
|     | 3100  | BERN | 4 S/F  | 0512.1        | 0515.5                     | 7.0               | 137.0                                           |                |     |                 |
|     | 9100  | GORK | 46 C   | 0512.2        | 0514.7                     | 6.2               | 60.0                                            |                |     |                 |
|     | 9100  | GORK |        | 0512.2        | 0515.6                     |                   | 60.0                                            |                |     |                 |
|     | 9100  | GORK |        | 0512.2        | 0516.8                     |                   | 36.0                                            |                |     |                 |
|     | 17000 | NOBE | 7 C    | 0512.3        | 0514.7                     | 6.0               | 73.0                                            |                |     | L               |
|     | 35000 | NOBE | 7 C    | 0512.3        | 0514.7                     | 6.0               | 60.0                                            |                |     | 0               |
|     | 80000 | NOBE | 1 S    | 0512.3        | 0514.7                     | 6.0               | 22.0                                            |                |     |                 |
|     | 8800  | ATHN | 47 GB  | 0512.3        | 0514.8                     | 6.2               | 58.0                                            |                |     | QL=6 ST=2 TYP=5 |
|     | 4995  | ATHN | 4 S/F  | 0512.3        | 0515.0                     | 6.3               | 47.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 2950  | GORK | 4 S/F  | 0512.7        | 0515.5                     | 5.1               | 54.0                                            |                |     |                 |
|     | 4995  | LEAR | 47 GB  | 0512.8        | 0514.6                     | 5.0               | 53.0                                            |                |     | QL=6 ST=2 TYP=5 |

# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

27  
Apr 84

APRIL 1984

| Day | Freq  | Sta  | Type   | Start<br>(UT) | Time of<br>Maximum<br>(UT) | Duration<br>(Min) | Flux Density    |                   | Int | Remarks         |
|-----|-------|------|--------|---------------|----------------------------|-------------------|-----------------|-------------------|-----|-----------------|
|     |       |      |        |               |                            |                   | Peak<br>(10 -22 | Mean<br>W/m 2 Hz) |     |                 |
| 23  | 15400 | LEAR | 47 GB  | 0512.8        | 0514.8                     | 4.5               | 73.0            |                   |     | QL=6 ST=2 TYP=5 |
|     | 8800  | LEAR | 4 S/F  | 0512.8        | 0515.6                     | 4.5               | 44.0            |                   |     | QL=6 ST=2 TYP=3 |
|     | 2840  | PEKG | 46 C   | 0513.0        | 0515.6                     | 7.0               | 77.5            | 29.3              |     |                 |
|     | 2695  | LEAR | 47 GB  | 0513.5        | 0515.6                     | 4.6               | 82.0            |                   |     | QL=6 ST=2 TYP=5 |
|     | 2695  | ATHN | 4 S/F  | 0513.6        | 0514.8                     | 5.0               | 45.0            |                   |     | QL=6 ST=2 TYP=3 |
|     | 1415  | ATHN | 4 S/F  | 0513.8        | 0515.6                     | 6.2               | 16.0            |                   |     | QL=6 ST=2 TYP=3 |
|     | 1000  | TYKW | 45 C   | 0514.0        | 0516.3                     | 7.0               | 5.0             | 1.5               |     |                 |
|     | 1415  | LEAR | 8 S    | 0515.3        | 0515.6                     | .8                | 19.0            |                   |     | QL=6 ST=2 TYP=3 |
|     | 9400  | TYKW | 30 FBI | 0519.0        |                            | 161.0             | 2.0             | 1.0               |     |                 |
|     | 2000  | TYKW | 30 FBI | 0520.0        |                            | 200.0             | 4.0             | 2.0               |     |                 |
|     | 3750  | TYKW | 30 FBI | 0520.0        |                            | 170.0             | 4.0             | 2.0               |     |                 |
|     | 9400  | TYKW | 21 GRF | 0520.0        | 0558.0                     | 160.0             | 20.0            | 10.0              |     |                 |
|     | 2000  | TYKW | 5 S    | 0521.0        | 0522.0                     | 2.0               | 1.0             | 0.3               |     |                 |
|     | 3750  | TYKW | 5 S    | 0521.0        | 0522.1                     | 3.0               | 3.0             | 1.0               |     |                 |
|     | 3750  | TYKW | 21 GRF | 0521.0        | 0625.0                     | 160.0             | 10.0            | 6.0               |     |                 |
|     | 2000  | TYKW | 21 GRF | 0525.0        | 0555.0                     | 185.0             | 4.0             | 2.0               |     |                 |
|     | 3100  | CRIM | 29 FBI | 0540.0        | 0540.0                     | 130.0             | 9.0             | 3.0               |     |                 |
|     | 9400  | TYKW | 5 S    | 0610.0        | 0610.3                     | 1.0               | 3.0             | 1.0               |     |                 |
|     | 9400  | TYKW | 5 S    | 0625.0        | 0625.7                     | 2.0               | 4.0             | 1.5               |     |                 |
|     | 9400  | TYKW | 21 GRF | 0640.0        | 0656.0                     | 60.0              | 6.0             | 3.0               |     |                 |
|     | 9400  | TYKW | 5 S    | 0644.5        | 0645.1                     | 2.5               | 8.0             | 2.0               |     |                 |
|     | 9100  | GORK | 1 S    | 0644.7        | 0645.0                     | 1.3               | 7.0             | 3.0               |     |                 |
|     | 2000  | TYKW | 20 GRF | 0645.0        | 0710.0                     | 85.0              | 3.0             | 1.5               |     |                 |
|     | 3750  | TYKW | 20 GRF | 0650.0        | 0718.0                     | 65.0              | 4.0             | 2.0               |     |                 |
|     | 17000 | NOBE | 1 S    | 0719.0        | 0721.6                     | 4.0               | 16.0            |                   |     | 0               |
|     | 808   | ONDR | 8 S    | 0754.0        | 0754.0                     | .5                | 89.0            |                   |     |                 |
|     | 410   | LEAR | 8 S    | 0851.6        | 0851.8                     | .2                | 42.0            |                   |     | QL=6 ST=2 TYP=3 |
|     | 245   | LEAR | 8 S    | 0851.6        | 0851.8                     | .2                | 35.0            |                   |     | QL=6 ST=2 TYP=3 |
|     | 430   | KRAK |        | 0853.0        | 0903.7                     |                   | 210.0           |                   |     |                 |
|     | 3100  | CRIM | 1 S    | 0854.0        | 0902.1                     | 20.0              | 7.0             | 2.0               |     |                 |
|     | 950   | GORK | 21 GRF | 0910.1        | 0916.7                     | 20.2              | 7.0             |                   |     |                 |
|     | 2950  | GORK | 1 S    | 0911.7        | 0912.3                     | .8                | 5.0             | 2.5               |     |                 |
|     | 810   | KRAK | 42 SER | 0914.0        | 0914.5                     | 9.5               | 54.0            |                   |     |                 |
|     | 810   | KRAK |        | 0914.0        | 0919.6                     |                   | 38.0            |                   |     |                 |
|     | 808   | ONDR | 8 S    | 0914.5        | 0914.5                     | .5                | 35.0            |                   |     |                 |
|     | 113   | POTS | 41 F   | 0915.3        | 0922.3                     | 7.1               | 1000.0          | 20.0              |     | 1111/V          |
|     | 3100  | BERN | 3 S    | 0919.0        | 0920.4                     | 3.0               | 16.0            |                   |     |                 |
|     | 5200  | BERN | 3 S    | 0919.0        | 0920.4                     | 3.0               | 31.0            |                   |     |                 |
|     | 430   | KRAK | 41 F   | 0919.0        | 0920.5                     | 7.5               | 110.0           |                   |     |                 |
|     | 808   | ONDR | 8 S    | 0920.0        | 0920.3                     | 1.0               | 115.0           |                   |     |                 |
|     | 3000  | POTS | 6 S    | 0920.0        | 0920.4                     | 1.0               | 9.0             |                   |     |                 |
|     | 9500  | POTS | 3 S    | 0920.0        | 0920.4                     | 1.0               | 21.0            |                   |     |                 |
|     | 11800 | BERN | 3 S    | 0920.0        | 0920.4                     | 2.0               | 55.0            |                   |     |                 |
|     | 8400  | BERN | 3 S    | 0920.0        | 0920.4                     | 2.0               | 39.0            |                   |     |                 |
|     | 536   | ONDR | 40 F   | 0920.0        | 0920.5                     | 6.5               | 48.0            |                   |     |                 |
|     | 1470  | POTS | 3 S    | 0920.0        | 0920.6                     | 1.0               | 52.0            |                   |     |                 |
|     | 4995  | LEAR | 8 S    | 0920.0        | 0920.8                     | 1.0               | 18.0            |                   |     | QL=6 ST=2 TYP=3 |
|     | 950   | GORK | 4 S/F  | 0920.1        | 0920.3                     | 1.0               | 32.0            |                   |     |                 |
|     | 9100  | GORK | 8 S    | 0920.1        | 0920.4                     | .9                | 30.0            | 15.0              |     |                 |
|     | 234   | POTS | 4 S/F  | 0920.1        | 0920.4                     | .3                | 200.0           | 10.0              |     | 111/V           |
|     | 650   | GORK | 4 S/F  | 0920.1U       | 0920.5                     | .6U               | 34.0            |                   |     |                 |
|     | 8800  | LEAR | 8 S    | 0920.1        | 0920.8                     | 1.7               | 38.0            |                   |     | QL=6 ST=2 TYP=3 |
|     | 2695  | LEAR | 8 S    | 0920.1        | 0920.8                     | 1.7               | 18.0            |                   |     | QL=6 ST=2 TYP=3 |
|     | 245   | LEAR | 47 GB  | 0920.1        | 0920.8                     | 1.2               | 160.0           |                   |     | QL=6 ST=2 TYP=5 |
|     | 204   | IZMI | 5 S    | 0920.2        | 0920.5                     | 1.0               | 200.0           | 100.0             |     |                 |
|     | 2950  | GORK | 1 S    | 0920.2        | 0920.5                     | .7                | 5.0             | 2.5               |     |                 |
|     | 610   | LEAR | 8 S    | 0920.3        | 0920.6                     | .5                | 41.0            |                   |     | QL=6 ST=2 TYP=3 |
|     | 1415  | LEAR | 47 GB  | 0920.5        | 0920.6                     | .3                | 61.0            |                   |     | QL=6 ST=2 TYP=5 |
|     | 410   | LEAR | 47 GB  | 0920.8        | 0920.8                     | .5                | 150.0           |                   |     | QL=6 ST=2 TYP=5 |
|     | 3100  | CRIM | 24 R   | 1000.0        | 1040.0                     |                   | 6.0             |                   |     |                 |
|     | 9100  | GORK | 1 S    | 1045.8        | 1047.1                     | 2.4               | 7.0             | 3.0               |     |                 |
|     | 245   | SGMR | 4 S/F  | 1130.3        | 1134.0                     | 9.3               | 19.0            |                   |     | QL=6 ST=2 TYP=3 |
|     | 8800  | ATHN | 4 S/F  | 1130.6        | 1131.8                     | 2.9               | 16.0            |                   |     | QL=6 ST=2 TYP=3 |
|     | 9100  | GORK | 1 S    | 1131.2        | 1131.7                     | 1.5               | 14.0            | 7.0               |     |                 |
|     | 15400 | SGMR | 8 S    | 1131.3        | 1131.6                     | .8                | 28.0            |                   |     | QL=6 ST=2 TYP=3 |
|     | 8800  | SGMR | 8 S    | 1131.3        | 1131.8                     | .8                | 18.0            |                   |     | QL=6 ST=2 TYP=3 |
|     | 9500  | POTS | 29 FBI | 1131.5        | 1132.0                     | 24.0              | 14.0            |                   |     |                 |
|     | 536   | ONDR | 46 C   | 1133.5        | 1133.5                     | 1.5               | 63.0            |                   |     |                 |
|     | 610   | SGMR | 8 S    | 1133.6        | 1133.8                     | 1.0               | 20.0            |                   |     | QL=6 ST=2 TYP=3 |
|     | 410   | SGMR | 8 S    | 1133.8        | 1134.0                     | .5                | 31.0            |                   |     | QL=6 ST=2 TYP=3 |
|     | 2800  | OTTA | 20 GRF | 1215.0        | 1240.0                     | 90.0              | 2.6             | 1.3               |     |                 |

28  
Apr 84

# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

APRIL 1984

| Day | Freq  | Sta  | Type   | Start<br>(UT) | Time of<br>Maximum<br>(UT) | Duration<br>(Min) | Flux Density                                    |                               | int | Remarks         |
|-----|-------|------|--------|---------------|----------------------------|-------------------|-------------------------------------------------|-------------------------------|-----|-----------------|
|     |       |      |        |               |                            |                   | Peak<br>(10 <sup>-22</sup> W/m <sup>2</sup> Hz) | Mean<br>(W/m <sup>2</sup> Hz) |     |                 |
| 23  | 19600 | BERN | 3 S    | 1233.3        | 1234.1                     | 8.00              | 40.0                                            |                               |     |                 |
|     | 11800 | BERN | 3 S    | 1233.3        | 1234.1                     | 8.00              | 30.0                                            |                               |     |                 |
|     | 8400  | BERN | 3 S    | 1233.3        | 1234.3                     | 8.00              | 29.0                                            |                               |     |                 |
|     | 15400 | SGMR | 47 GB  | 1233.6        | 1234.1                     | 2.0               | 62.0                                            |                               |     | QL=6 ST=2 TYP=5 |
|     | 8800  | SGMR | 4 S/F  | 1233.6        | 1234.1                     | 4.0               | 32.0                                            |                               |     | QL=6 ST=2 TYP=3 |
|     | 8800  | ATHN | 4 S/F  | 1233.6        | 1234.3                     | 2.9               | 35.0                                            |                               |     | QL=6 ST=2 TYP=3 |
|     | 4995  | ATHN | 4 S/F  | 1233.6        | 1234.3                     | 2.9               | 5.0                                             |                               |     | QL=6 ST=2 TYP=3 |
|     | 4995  | SGMR | 8 S    | 1234.1        | 1234.3                     | .4                | 11.0                                            |                               |     | QL=6 ST=2 TYP=3 |
|     | 2800  | OTTA | 21 GRF | 1320.0        | 1400.0                     | 70.0              | 3.6                                             | 1.8                           |     |                 |
|     | 9500  | POTS | 3 S    | 1338.5        | 1339.4                     | 1.5               | 24.0                                            |                               |     |                 |
|     | 8800  | ATHN | 8 S    | 1338.6        | 1339.3                     | 1.5               | 39.0                                            |                               |     | QL=6 ST=2 TYP=3 |
|     | 19600 | BERN | 3 S    | 1338.7        | 1339.1                     | 3.0               | 74.0                                            |                               |     |                 |
|     | 11800 | BERN | 3 S    | 1338.7        | 1339.1                     | 3.0               | 59.0                                            |                               |     |                 |
|     | 8400  | BERN | 3 S    | 1338.7        | 1339.1                     | 3.0               | 21.0                                            |                               |     |                 |
|     | 1415  | ATHN | 47 GB  | 1348.1        | 1353.0                     | 10.0              | 55.0                                            |                               |     | QL=6 ST=2 TYP=5 |
|     | 1470  | POTS | 4 S/F  | 1351.0        | 1352.6                     | 4.5               | 50.0                                            |                               |     |                 |
|     | 2800  | OTTA | 4 S/F  | 1351.5        | 1352.8                     | 5.0               | 47.6                                            | 18.4                          |     |                 |
|     | 1415  | SGMR | 47 GB  | 1351.6        | 1352.6                     | 2.7               | 78.0                                            |                               |     | QL=6 ST=2 TYP=5 |
|     | 610   | SGMR | 8 S    | 1352.1        | 1352.6                     | 2.0               | 20.0                                            |                               |     | QL=6 ST=2 TYP=3 |
|     | 4995  | ATHN | 4 S/F  | 1352.3        | 1353.0                     | 2.2               | 5.0                                             |                               |     | QL=6 ST=2 TYP=3 |
|     | 2695  | ATHN | 4 S/F  | 1352.3        | 1353.0                     | 4.8               | 39.0                                            |                               |     | QL=6 ST=2 TYP=3 |
|     | 2695  | SGMR | 8 S    | 1352.5        | 1352.6                     | .5                | 43.0                                            |                               |     | QL=6 ST=2 TYP=3 |
|     | 4995  | SGMR | 8 S    | 1353.8        | 1354.3                     | .5                | 11.0                                            |                               |     | QL=6 ST=2 TYP=3 |
|     | 808   | ONDR | 1 S    | 1401.0        | 1404.0                     | 5.0               | 165.0                                           |                               |     |                 |
|     | 9500  | POTS | 3 S    | 1416.5        | 1417.5                     | 2.0               | 14.0                                            |                               |     |                 |
|     | 8800  | SGMR | 8 S    | 1416.8        | 1417.3                     | 1.3               | 20.0                                            |                               |     | QL=6 ST=2 TYP=3 |
|     | 2800  | OTTA | 240 R  | 1505.0        | 1515.0                     | 10.0              | 2.8                                             | 1.4                           |     |                 |
|     | 2800  | OTTA | 21 GRF | 1540.0        | 1655.0                     | 200.0             | 13.0                                            | 5.5                           |     |                 |
|     | 2800  | OTTA | 47 GB  | 1611.0        | 1632.0                     | 45.0              | 588.0                                           | 89.0                          |     |                 |
|     | 15400 | SGMR | 47 GB  | 1611.1        | 1612.3                     | 14.0              | 30.0                                            |                               |     | QL=6 ST=2 TYP=5 |
|     | 4995  | SGMR | 47 GB  | 1611.3        | 1613.1                     | 13.8              | 22.0                                            |                               |     | QL=6 ST=2 TYP=5 |
|     | 8800  | SGMR | 47 GB  | 1611.6        | 1612.3                     | 13.5              | 31.0                                            |                               |     | QL=6 ST=2 TYP=5 |
|     | 2695  | SGMR | 47 GB  | 1611.8        | 1624.5                     | 13.3              | 180.0                                           |                               |     | QL=6 ST=2 TYP=5 |
|     | 410   | SGMR | 47 GB  | 1612.3        | 1614.3                     | 12.8              | 40.0                                            |                               |     | QL=6 ST=2 TYP=5 |
|     | 1415  | SGMR | 47 GB  | 1612.5        | 1614.3                     | 12.6              | 23.0                                            |                               |     | QL=6 ST=2 TYP=5 |
|     | 245   | SGMR | 4 S/F  | 1616.8        | 1619.8                     | 8.3               | 100.0                                           |                               |     | QL=6 ST=2 TYP=3 |
|     | 8400  | BERN | 47 GB  | 1620.0        | 1632.0                     | 30.0              | 1466.0                                          |                               |     |                 |
|     | 11800 | BERN | 47 GB  | 1620.0        | 1632.0                     | 30.0              | 1285.0                                          |                               |     |                 |
|     | 19600 | BERN | 47 GB  | 1620.0        | 1632.0                     | 12.0U             | 518.0                                           |                               |     |                 |
|     | 3100  | BERN | 47 GB  | 1620.0        | 1632.1                     | 30.0              | 1113.0                                          |                               |     |                 |
|     | 5200  | BERN | 47 GB  | 1620.0        | 1632.1                     | 30.0              | 1852.0                                          |                               |     |                 |
|     | 35000 | BERN | 45 C   | 1620.0        | 1632.5                     | 12.5U             | 222.0                                           |                               |     |                 |
|     | 50000 | BERN | 45 C   | 1620.0        | 1632.5U                    | 12.5U             | 31.0U                                           |                               |     |                 |
|     | 610   | SGMR | 49 GB  | 1621.6        | 1624.6                     | 3.5               | 520.0                                           |                               |     | QL=6 ST=2 TYP=6 |
|     | 2800  | OTTA | 21 GRF | 1805.0        | 1825.0                     | 50.0              | 3.6                                             | 2.1                           |     |                 |
|     | 2800  | OTTA | 40 F   | 1806.0        | 1806.2                     | 2.0               | 2.6                                             |                               |     |                 |
|     | 15400 | SGMR | 8 S    | 1914.6        | 1914.8                     | .7                | 22.0                                            |                               |     | QL=6 ST=2 TYP=3 |
|     | 15400 | SGMR | 4 S/F  | 1934.6        | 1935.1                     | 3.4               | 38.0                                            |                               |     | QL=6 ST=2 TYP=3 |
|     | 8800  | SGMR | 8 S    | 1934.8        | 1935.1                     | 1.7               | 21.0                                            |                               |     | QL=6 ST=2 TYP=3 |
|     | 2800  | OTTA | 21 GRF | 1950.0        | 2015.0                     | 60.0              | 3.8                                             | 1.9                           |     |                 |
|     | 2800  | OTTA | 1 S    | 1953.5        | 1954.2                     | 1.5               | 2.6                                             | 1.2                           |     |                 |
|     | 245   | SGMR | 49 GB  | 1953.6        | 1954.1                     | 1.0               | 510.0                                           |                               |     | QL=6 ST=2 TYP=6 |
|     | 15400 | SGMR | 47 GB  | 2018.5        | 2018.6                     | .6                | 64.0                                            |                               |     | QL=6 ST=2 TYP=5 |
|     | 15400 | SGMR | 8 S    | 2022.5        | 2023.1                     | 1.5               | 30.0                                            |                               |     | QL=6 ST=2 TYP=3 |
|     | 500   | HIRA | 8 S    | 2028.6        | 2029.3                     | .7                | 4.0                                             |                               |     | WR              |
|     | 2800  | OTTA | 1 S    | 2029.0        | 2029.5                     | 1.0               | 4.6                                             | 2.0                           |     |                 |
|     | 200   | HIRA | 42 SER | 2029.2        | 2029.5                     | 5.3               | 1800.0                                          |                               |     | WR              |
|     | 1000  | TYKW | 45 C   | 2118.0        | 2120.7                     | 5.0               | 17.0                                            | 1.0                           |     |                 |
|     | 3750  | TYKW | 21 GRF | 2120.0        | 2300.0                     | 265.0             | 5.0                                             | 2.5                           |     |                 |
|     | 9400  | TYKW | 28 FKE | 2150.0        | 2203.0                     | 13.0              | 6.0                                             | 3.0                           |     |                 |
|     | 9400  | TYKW | 45 C   | 2154.0        | 2157.0                     | 4.0               | 11.0                                            | 3.0                           |     |                 |
|     | 3750  | TYKW | 45 C   | 2154.0        | 2157.2                     | 4.0               | 7.0                                             | 1.5                           |     |                 |
|     | 7000  | NOBE | 21 GRF | 2156.7        | 2157.1                     | 15.0              | 16.0                                            |                               |     | 0               |
|     | 9400  | TYKW | 5 S    | 2203.0        | 2204.6                     | 8.0               | 52.0                                            | 18.0                          |     |                 |
|     | 8800  | SGMR | 8 S    | 2204.3        | 2204.6                     | .8                | 33.0                                            |                               |     | QL=6 ST=2 TYP=3 |
|     | 17000 | NOBE | 1 S    | 2204.4        | 2204.6                     | 2.0               | 40.0                                            |                               |     | R               |
|     | 15400 | SGMR | 47 GB  | 2204.5        | 2204.6                     | 1.1               | 58.0                                            |                               |     | QL=6 ST=2 TYP=5 |
|     | 9400  | TYKW | 29 FBI | 2211.0        |                            | 25.0              | 8.0                                             | 4.0                           |     |                 |
|     | 2930  | VORO | 3 S    | 2212.0        | 2215.0                     | 8.0               | 119.0                                           |                               |     |                 |
|     | 2800  | OTTA | 1 S    | 2216.0        | 2217.8                     | 5.0               | 5.0                                             | 1.7                           |     |                 |
|     | 3750  | TYKW | 45 C   | 2216.0        | 2217.8                     | 3.0               | 8.0                                             | 4.0                           |     |                 |

# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

29  
Apr 84

APRIL 1984

| Day | Freq  | Sta  | Type   | Start<br>(UT) | Time of<br>Maximum<br>(UT) | Duration<br>(Min) | Flux Density<br>Peak<br>(10 <sup>-22</sup> W/m <sup>2</sup> Hz) | Mean<br>(10 <sup>-22</sup> W/m <sup>2</sup> Hz) | Int | Remarks         |
|-----|-------|------|--------|---------------|----------------------------|-------------------|-----------------------------------------------------------------|-------------------------------------------------|-----|-----------------|
| 23  | 3750  | TYKW | 30 PBI | 2219.0        |                            | 15.0              | 2.0                                                             | 1.0                                             |     |                 |
|     | 3750  | TYKW | 5 S    | 2229.0        | 2229.5                     | 1.0               | 3.0                                                             | 1.0                                             |     |                 |
|     | 1000  | TYKW | 5 S    | 2238.7        | 2238.8                     | 0.6               | 7.0                                                             | 2.0                                             |     |                 |
|     | 9400  | TYKW | 20 GRF | 2242.0        | 2250.0                     | 35.0              | 4.0                                                             | 2.0                                             |     |                 |
|     | 2930  | VORO | 45 C   | 2245.0        | 2252.0                     | 15.0              | 338.0                                                           |                                                 |     |                 |
|     | 2695  | PENT | 20 GRF | 2245.0        | 2350.0                     | 185.0             | 8.6                                                             | 4.6                                             |     |                 |
|     | 15400 | SGMR | 47 GB  | 2254.1        | 2255.1                     | 2.70              | 66.0                                                            |                                                 |     | QL=4 ST=2 TYP=5 |
|     | 2000  | TYKW | 21 GRF | 2300.0        | 2358.0                     | 150.0             | 3.0                                                             | 1.5                                             |     |                 |
|     | 3750  | TYKW | 21 GRF | 2332.0        | 2347.0                     | 130.0             | 8.0                                                             | 4.0                                             |     |                 |
|     | 9400  | TYKW | 21 GRF | 2338.0        | 2348.0                     | 120.0             | 10.0                                                            | 5.0                                             |     |                 |
|     | 17000 | NOBE | 1 S    | 2339.6        | 2339.9                     | .8                | 16.0                                                            |                                                 | 0   |                 |
|     | 17000 | NOBE | 21 GRF | 2339.6        | 2358.3                     | 60.0              | 12.0                                                            |                                                 | 0   |                 |
|     | 2000  | TYKW | 45 C   | 2341.5        | 2342.8                     | 5.5               | 31.0                                                            | 3.0                                             |     |                 |
|     | 1000  | TYKW | 45 C   | 2342.5        | 2342.9                     | 2.0               | 6.0                                                             | 1.5                                             |     |                 |
|     | 610   | LEAR | 8 S    | 2342.6        | 2342.8                     | 1.4               | 16.0                                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 1415  | LEAR | 8 S    | 2342.8        | 2342.8                     | .3                | 24.0                                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 1000  | TYKW | 45 C   | 2346.0        | 2346.4                     | 2.0               | 3.0                                                             | 0.7                                             |     |                 |
|     | 2000  | TYKW | 29 PBI | 2347.0        |                            | 8.0               | 1.5                                                             | 0.7                                             |     |                 |
|     | 9400  | TYKW | 5 S    | 2353.0        | 2353.3                     | 1.0               | 11.0                                                            | 3.0                                             |     |                 |
|     | 17000 | NOBE | 1 S    | 2353.0        | 2353.3                     | .7                | 22.0                                                            |                                                 | R   |                 |
|     | 15400 | LEAR | 8 S    | 2353.1        | 2353.6                     | .7                | 33.0                                                            |                                                 |     | QL=6 ST=2 TYP=3 |
| 24  | 100   | GORK | 44 NS  | 0345.0E       |                            | 159.0D            |                                                                 | 20.0                                            |     |                 |
|     | 245   | LEAR | 43 NS  |               | 0401.0                     | 350.5D            | 30.0                                                            |                                                 |     | QL=6 ST=2 TYP=1 |
|     | 260   | ONDR | 43 NS  | 0555.0        |                            | 230.0D            | 4.0                                                             |                                                 |     |                 |
|     | 29    | UPIC | 43 NS  | 0712.8        |                            | 587.2D            |                                                                 |                                                 |     |                 |
|     | 33    | UPIC | 43 NS  | 0712.9        |                            | 587.1D            |                                                                 |                                                 |     |                 |
|     | 808   | ONDR | 43 NS  | 0900.0        | 1011.0U                    | 180.0             | 44.0                                                            |                                                 |     |                 |
|     | 245   | SGMR | 43 NS  | 1946.5        | 2021.6                     | 207.5D            | 680.0                                                           |                                                 |     | QL=6 ST=2 TYP=1 |
|     | 200   | HIRA | 44 NS  | 1952.0E       |                            | 805.0D            |                                                                 | 10.0                                            |     | MR              |
|     | 208   | VORO | 44 NS  | 2200.0E       |                            | 360.0D            |                                                                 | 32.0                                            |     |                 |
|     | 245   | LEAR | 43 NS  | 2257.0        | 2329.3                     | 649.0D            | 45.0                                                            |                                                 |     | QL=6 ST=2 TYP=1 |
|     | 3750  | TYKW | 21 GRF | 0010.0        | 0031.0                     | 80.0              | 4.0                                                             | 2.0                                             |     |                 |
|     | 9400  | TYKW | 21 GRF | 0012.0        | 0019.0                     | 35.0              | 4.0                                                             | 2.0                                             |     |                 |
|     | 9400  | TYKW | 5 S    | 0030.0        | 0030.2                     | 1.0               | 3.0                                                             | 1.0                                             |     |                 |
|     | 2000  | TYKW | 5 S    | 0034.0        | 0036.0                     | 4.0               | 3.0                                                             | 0.7                                             |     |                 |
|     | 3750  | TYKW | 5 S    | 0035.0        | 0036.0                     | 2.0               | 2.0                                                             | 0.7                                             |     |                 |
|     | 2902  | YUNN | 45 C   | 0125.7        | 0134.2                     | 20.0              | 36.0                                                            |                                                 |     |                 |
|     | 9400  | TYKW | 31 ABS | 0137.0        | 0143.0                     | 20.0              | -3.0                                                            | -1.5                                            |     |                 |
|     | 9400  | TYKW | 32 ABS | 0209.0        | 0410.0                     | 121.0U            | -11.0                                                           | -6.0                                            |     |                 |
|     | 2000  | TYKW | 32 ABS | 0230.0        | 0310.0                     | 46.0              | -3.0                                                            | -1.5                                            |     |                 |
|     | 3750  | TYKW | 32 ABS | 0230.0        | 0310.0                     | 47.0              | -9.0                                                            | -5.0                                            |     |                 |
|     | 1000  | TYKW | 32 ABS | 0230.0        | 0310.0                     | 45.0              | -1.0                                                            | -0.5                                            |     |                 |
|     | 17000 | NOBE | 45 C   | 0306.0        | 0348.4                     | 52.0              | 660.0                                                           |                                                 | R   |                 |
|     | 2902  | YUNN | 45 C   | 0313.2        | 0349.0                     | 61.8              | 196.0                                                           |                                                 |     |                 |
|     | 1000  | TYKW | 45 C   | 0315.0        | 0318.3                     | 14.0              | 29.0                                                            | 8.0                                             |     |                 |
|     | 9400  | TYKW | 28 PRE | 0315.0        | 0319.7                     | 17.0              | 23.0                                                            | 16.0                                            |     |                 |
|     | 2000  | TYKW | 45 C   | 0316.0        | 0321.2                     | 15.0              | 30.0                                                            | 12.0                                            |     |                 |
|     | 8800  | LEAR | 20 GRF | 0316.1        | 0319.8                     | 25.5              | 32.0                                                            |                                                 |     | QL=6 ST=2 TYP=2 |
|     | 15400 | LEAR | 47 GB  | 0316.8        | 0319.6                     | 24.8              | 26.0                                                            |                                                 |     | QL=6 ST=2 TYP=5 |
|     | 3750  | TYKW | 28 PRE | 0317.0        | 0326.6                     | 17.0              | 24.0                                                            | 15.0                                            |     |                 |
|     | 1415  | LEAR | 47 GB  | 0317.6        | 0321.1                     | 10.0              | 32.0                                                            |                                                 |     | QL=6 ST=2 TYP=5 |
|     | 4995  | LEAR | 47 GB  | 0317.6        | 0321.1                     | 24.0              | 23.0                                                            |                                                 |     | QL=6 ST=2 TYP=5 |
|     | 2695  | LEAR | 4 S/F  | 0318.8        | 0321.1                     | 22.8              | 20.0                                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 500   | HIRA | 45 C   | 0318.9        | 0326.1                     | 10.0              | 17.0                                                            | 6.0                                             |     | MR              |
|     | 610   | LEAR | 8 S    | 0319.8        | 0321.0                     | 1.7               | 20.0                                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 2840  | PEKG | 3 S    | 0322.0        | 0326.7                     | 10.0              | 16.0                                                            | 4.2                                             |     |                 |
|     | 200   | HIRA | 46 C   | 0323.8        | 0326.0                     | 4.3               | 32.0                                                            | 6.0                                             |     | 0               |
|     | 245   | LEAR | 8 S    | 0325.8        | 0325.8                     | .3                | 32.0                                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 100   | HIRA | 41 F   | 0326.0        | 0338.0                     | 14.0              | 130.0                                                           |                                                 |     |                 |
|     | 1000  | TYKW | 30 PBI | 0329.0        |                            | 8.0               | 2.0                                                             | 2.0                                             |     |                 |
|     | 2000  | TYKW | 30 PBI | 0331.0        |                            | 6.0               | 6.0                                                             | 5.0                                             |     |                 |
|     | 9400  | TYKW | 47 GB  | 0332.0        | 0348.4                     | 32.0              | 760.0                                                           | 155.0                                           |     |                 |
|     | 9395  | PEKG | 45 C   | 0332.0        | 0348.5                     | 24.0D             | 364.1D                                                          |                                                 |     |                 |
|     | 2840  | PEKG | 45 C   | 0332.0        | 0349.2                     | 34.0              | 155.3                                                           | 71.4                                            |     |                 |
|     | 3750  | TYKW | 45 C   | 0334.0        | 0349.2                     | 41.0              | 215.0                                                           | 48.0                                            |     |                 |
|     | 500   | HIRA | 46 C   | 0336.0        | 0347.9                     | 46.0              | 780.0                                                           | 30.0                                            |     | MR              |
|     | 1000  | TYKW | 45 C   | 0337.0        | 0348.2                     | 38.0              | 120.0                                                           | 14.0                                            |     |                 |
|     | 2000  | TYKW | 45 C   | 0337.0        | 0349.2                     | 38.0              | 145.0                                                           | 22.0                                            |     |                 |
|     | 35000 | NOBE | 45 C   | 0337.9        | 0348.3                     | 16.0              | 540.0                                                           |                                                 | R   |                 |
|     | 8800  | LEAR | 49 GB  | 0341.6        | 0343.3                     | 14.9              | 169.0                                                           |                                                 |     | QL=6 ST=2 TYP=6 |

30  
Apr 84

# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

APRIL 1984

| Day | Freq  | Sta  | Type   | Start<br>(UT) | Time of<br>Maximum<br>(UT) | Duration<br>(Min) | Flux Density                                    |                                                 | Int | Remarks         |
|-----|-------|------|--------|---------------|----------------------------|-------------------|-------------------------------------------------|-------------------------------------------------|-----|-----------------|
|     |       |      |        |               |                            |                   | Peak<br>(10 <sup>-22</sup> W/m <sup>2</sup> Hz) | Mean<br>(10 <sup>-22</sup> W/m <sup>2</sup> Hz) |     |                 |
| 24  | 4995  | LEAR | 47 GB  | 0341.6        | 0343.3                     | 14.9              | 139.0                                           |                                                 |     | QL=6 ST=2 TYP=5 |
|     | 2695  | LEAR | 47 GB  | 0341.6        | 0343.3                     | 14.9              | 56.0                                            |                                                 |     | QL=6 ST=2 TYP=5 |
|     | 610   | LEAR | 47 GB  | 0341.6        | 0343.8                     | 14.9              | 42.0                                            |                                                 |     | QL=6 ST=2 TYP=5 |
|     | 15400 | LEAR | 49 GB  | 0341.6        | 0345.3                     | 14.9              | 160.0                                           |                                                 |     | QL=6 ST=2 TYP=6 |
|     | 1415  | LEAR | 47 GB  | 0341.6        | 0349.3                     | 14.9              | 139.0                                           |                                                 |     | QL=6 ST=2 TYP=5 |
|     | 80000 | NOBE | 45 C   | 0341.8        | 0348.3                     | 10.0              | 55.0                                            |                                                 |     |                 |
|     | 950   | GORK | 46 C   | 0342.5        | 0346.5                     | 33.6              | 18.0                                            |                                                 |     |                 |
|     | 950   | GORK |        | 0342.5        | 0348.0                     |                   | 75.0                                            |                                                 |     |                 |
|     | 410   | LEAR | 49 GB  | 0343.8        | 0344.8                     | 12.7              | 44.0                                            |                                                 |     | QL=6 ST=2 TYP=6 |
|     | 200   | GORK | 27 RF  | 0346.5        | 0404.4                     | 238.0             | 100.0                                           |                                                 |     |                 |
|     | 200   | HIRA | 27 RF  | 0347.1        | 0356.1                     | 143.0             | 80.0                                            | 21.0                                            |     | WR              |
|     | 245   | LEAR | 47 GB  | 0347.8        | 0348.1                     | 8.7               | 320.0                                           |                                                 |     | QL=6 ST=2 TYP=5 |
|     | 100   | HIRA | 46 C   | 0349.7        | 0350.0                     | 3.0               | 480.0                                           | 57.0                                            |     |                 |
|     | 9100  | GORK | 4 S/F  | 0351.0E       | 0352.0                     | 6.00              | 270.0                                           |                                                 |     |                 |
|     | 80000 | NOBE | 20 GRF | 0351.8        | 0408.0                     | 50.0              | 57.0                                            |                                                 |     |                 |
|     | 2950  | GORK | 23 GRF | 0354.0E       | 0357.7                     | 480.00            | 11.7                                            |                                                 |     |                 |
|     | 100   | HIRA | 27 RF  | 0354.0        | 0433.0                     | 108.0             | 175.0                                           | 40.0                                            |     |                 |
|     | 100   | HIRA |        | 0354.0        | 0518.0                     |                   | 140.0                                           |                                                 |     |                 |
|     | 2950  | GORK | 4 S/F  | 0354.4        | 0355.8                     | 3.3               | 13.4                                            | 6.0                                             |     |                 |
|     | 950   | GORK | 29 PBI | 0356.5        | 0356.5U                    | 8.7               | 28.0                                            |                                                 |     |                 |
|     | 4995  | LEAR | 47 GB  | 0356.5        | 0356.6                     | 23.8              | 430.0                                           |                                                 |     | QL=6 ST=2 TYP=5 |
|     | 8800  | LEAR | 49 GB  | 0356.5        | 0356.6                     | 23.8              | 700.0                                           |                                                 |     | QL=6 ST=2 TYP=6 |
|     | 610   | LEAR | 47 GB  | 0356.5        | 0356.6                     | 2.3               | 189.0                                           |                                                 |     | QL=6 ST=2 TYP=5 |
|     | 2695  | LEAR | 47 GB  | 0356.5        | 0356.6                     | 18.1              | 150.0                                           |                                                 |     | QL=6 ST=2 TYP=5 |
|     | 15400 | LEAR | 49 GB  | 0356.5        | 0356.6                     | 23.8              | 660.0                                           |                                                 |     | QL=6 ST=2 TYP=6 |
|     | 1415  | LEAR | 47 GB  | 0356.5        | 0356.6                     | 8.0               | 110.0                                           |                                                 |     | QL=6 ST=2 TYP=5 |
|     | 410   | LEAR | 47 GB  | 0356.5        | 0356.6                     | 3.8               | 139.0                                           |                                                 |     | QL=6 ST=2 TYP=5 |
|     | 9100  | GORK | 29 PBI | 0357.0        | 0357.4                     | 87.0              | 68.0                                            |                                                 |     |                 |
|     | 9400  | TYKW | 29 PBI | 0404.0        |                            | 80.0              | 52.0                                            | 27.0                                            |     |                 |
|     | 17000 | NOBE | 29 PBI | 0408.0        | 0408.0                     | 54.0              | 110.0                                           |                                                 |     | O               |
|     | 35000 | NOBE | 29 PBI | 0408.0        | 0408.0                     | 56.0              | 112.0                                           |                                                 |     | R               |
|     | 1000  | TYKW | 29 PBI | 0415.0        |                            | 15.0              | 1.5                                             | 0.7                                             |     |                 |
|     | 2000  | TYKW | 30 PBI | 0415.0        |                            | 70.0              | 3.0                                             | 1.5                                             |     |                 |
|     | 3750  | TYKW | 30 PBI | 0415.0        |                            | 70.0              | 10.0                                            | 5.0                                             |     |                 |
|     | 3750  | TYKW | 20 GRF | 0420.0        | 0432.0                     | 40.0              | 4.0                                             | 2.0                                             |     |                 |
|     | 200   | HIRA | 42 SER | 0432.2        | 0440.8                     | 12.3              | 120.0                                           |                                                 |     | WL              |
|     | 1000  | TYKW | 45 C   | 0438.0        | 0438.2                     | 1.0               | 2.0                                             | 0.7                                             |     |                 |
|     | 1000  | TYKW | 45 C   | 0440.0        | 0440.4                     | 1.5               | 1.5                                             | 0.5                                             |     |                 |
|     | 650   | GORK | 23 GRF | 0455.4        | 0706.8                     | 424.00            | 28.0                                            |                                                 |     |                 |
|     | 1000  | TYKW | 45 C   | 0457.0        | 0506.4                     | 12.0              | 20.0                                            | 5.0                                             |     |                 |
|     | 500   | HIRA | 42 SER | 0457.0        | 0539.0                     | 83.0              | 8.0                                             | 3.0                                             |     | WR              |
|     | 650   | GORK | 3 S    | 0503.8        | 0504.1                     | .8                | 9.0                                             | 4.5                                             |     |                 |
|     | 2000  | TYKW | 5 S    | 0504.0        | 0504.2                     | 1.0               | 2.0                                             | 0.7                                             |     |                 |
|     | 950   | GORK | 22 GRF | 0504.6E       | 0506.7                     | 19.40             | 16.0                                            |                                                 |     |                 |
|     | 1000  | TYKW | 29 PBI | 0509.0        |                            | 80.0              | 2.0                                             | 1.0                                             |     |                 |
|     | 650   | GORK | 3 S    | 0515.5        | 0515.9                     | .7                | 8.0                                             | 4.0                                             |     |                 |
|     | 9100  | GORK | 21 GRF | 0531.6        | 1144.3                     | 388.00            | 19.0                                            |                                                 |     |                 |
|     | 9400  | TYKW | 20 GRF | 0535.0        | 0550.0                     | 55.0U             | 4.0                                             | 2.0U                                            |     | INTERFERENCE    |
|     | 2000  | TYKW | 20 GRF | 0535.0        | 0550.0                     | 45.0              | 2.0                                             | 1.0                                             |     |                 |
|     | 3750  | TYKW | 20 GRF | 0540.0        | 0550.0                     | 40.0              | 2.0                                             | 1.0                                             |     |                 |
|     | 17000 | NOBE | 1 S    | 0545.1        | 0546.0                     | 5.0               | 60.0                                            |                                                 |     | O               |
|     | 35000 | NOBE | 1 S    | 0545.6        | 0546.0                     | 1.0               | 94.0                                            |                                                 |     | O               |
|     | 15400 | LEAR | 47 GB  | 0545.8        | 0546.1                     | 1.5               | 57.0                                            |                                                 |     | QL=6 ST=2 TYP=5 |
|     | 200   | HIRA | 27 RF  | 0632.0        | 0640.0                     | 28.0              | 13.0                                            | 5.0                                             |     | WR              |
|     | 2000  | TYKW | 21 GRF | 0632.0        | 0653.0                     | 120.0             | 13.0                                            | 5.0                                             |     |                 |
|     | 3100  | CRIM | 25 R   | 0632.0        | 0653.0                     |                   | 14.0                                            |                                                 |     |                 |
|     | 1000  | TYKW | 47 GB  | 0633.0        | 0639.0                     | 30.0              | 500.0                                           | 85.0                                            |     |                 |
|     | 3750  | TYKW | 21 GRF | 0633.0        | 0647.0                     | 120.0             | 10.0                                            | 4.0                                             |     |                 |
|     | 808   | ONDR | 47 GB  | 0633.0        | 0639.0                     | 22.0              | 1640.0                                          | 248.0                                           |     |                 |
|     | 500   | HIRA | 45 C   | 0633.0        | 0649.1                     | 44.0              | 47.0                                            | 20.0                                            |     | WR              |
|     | 536   | ONDR | 46 C   | 0633.0        | 0649.9                     | 24.0              | 56.0                                            | 38.0                                            |     |                 |
|     | 950   | GORK | 46 C   | 0633.2        | 0638.8                     | 19.0              | 339.0                                           |                                                 |     |                 |
|     | 950   | GORK |        | 0633.2        | 0640.0                     |                   | 276.0                                           |                                                 |     |                 |
|     | 950   | GORK |        | 0633.2        | 0644.1                     |                   | 77.0                                            |                                                 |     |                 |
|     | 950   | GORK |        | 0633.2        | 0647.2                     |                   | 197.0                                           |                                                 |     |                 |
|     | 9400  | TYKW | 21 GRF | 0634.0        | 0648.0                     | 90.0              | 6.0                                             | 3.0                                             |     |                 |
|     | 610   | LEAR | 47 GB  | 0635.3        | 0641.5                     | 38.2              | 139.0                                           |                                                 |     | QL=6 ST=2 TYP=5 |
|     | 650   | GORK | 46 C   | 0635.7        | 0638.6                     | 21.0              | 82.0                                            |                                                 |     |                 |
|     | 650   | GORK |        | 0635.7        | 0641.4                     |                   | 93.0                                            |                                                 |     |                 |
|     | 650   | GORK |        | 0635.7        | 0644.2                     |                   | 96.0                                            |                                                 |     |                 |
|     | 650   | GORK |        | 0635.7        | 0647.2                     |                   | 93.0                                            |                                                 |     |                 |

# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

31  
Apr 84

APRIL 1984

| Day | Freq  | Sta  | Type   | Start<br>(UT) | Time of<br>Maximum<br>(UT) | Duration<br>(Min) | Flux Density<br>Peak<br>(10 <sup>-22</sup> W/m <sup>2</sup> Hz) | Mean  | Int | Remarks         |
|-----|-------|------|--------|---------------|----------------------------|-------------------|-----------------------------------------------------------------|-------|-----|-----------------|
| 24  | 650   | GORK |        | 0635.7        | 0650.4                     |                   | 89.0                                                            |       |     |                 |
|     | 245   | LEAR | 20 GRF | 0636.0        | 0641.6                     | 14.0              | 24.0                                                            |       |     | QL=6 ST=2 TYP=2 |
|     | 410   | LEAR | 4 S/F  | 0636.6        | 0638.6                     | 13.7              | 13.0                                                            |       |     | QL=6 ST=2 TYP=3 |
|     | 1415  | LEAR | 4 S/F  | 0641.6        | 0643.1                     | 20.0              | 13.0                                                            |       |     | QL=6 ST=2 TYP=3 |
|     | 2695  | LEAR | 4 S/F  | 0644.1        | 0646.1                     | 10.9              | 15.0                                                            |       |     | QL=6 ST=2 TYP=3 |
|     | 1470  | POTS | 21 GRF | 0645.0E       | 0647.2                     | 60.00             | 13.0                                                            |       |     |                 |
|     | 9400  | TYKW | 5 S    | 0651.0        | 0652.4                     | 7.0               | 8.0                                                             | 3.0   |     |                 |
|     | 9100  | GORK | 1 S    | 0651.2        | 0652.2                     | 1.8               | 7.0                                                             | 3.0   |     |                 |
|     | 950   | GORK | 30 FBI | 0652.5        | 0652.5                     | 307.00            | 11.0                                                            |       |     |                 |
|     | 810   | KRAK | 27 RF  | 0700.0E       | 0809.4                     | 300.00            | 48.0                                                            | 2.0   |     |                 |
|     | 1000  | TYKW | 29 FBI | 0703.0        |                            | 105.00            | 8.0                                                             | 5.00  |     |                 |
|     | 9400  | TYKW | 20 GRF | 0704.0        | 0712.0                     | 35.0              | 2.0                                                             | 1.0   |     |                 |
|     | 808   | ONDR | 27 RF  | 0716.0        | 0805.0                     | 100.0             | 150.0                                                           | 99.0  |     |                 |
|     | 1470  | POTS | 8 S    | 0717.0        | 0717.5                     | 1.0               | 16.0                                                            |       |     |                 |
|     | 2000  | TYKW | 5 S    | 0717.2        | 0717.4                     | 0.5               | 6.0                                                             | 1.5   |     |                 |
|     | 3750  | TYKW | 5 S    | 0724.0        | 0724.3                     | 1.0               | 4.0                                                             | 1.5   |     |                 |
|     | 2000  | TYKW | 5 S    | 0739.0        | 0739.4                     | 2.0               | 3.0                                                             | 1.0   |     |                 |
|     | 3750  | TYKW | 5 S    | 0739.0        | 0739.5                     | 3.0               | 5.0                                                             | 1.5   |     |                 |
|     | 3100  | CRIM | 1 S    | 0739.0        | 0739.4                     | 4.0               | 4.0                                                             | 1.0   |     |                 |
|     | 2000  | TYKW | 5 S    | 0745.0        | 0745.4                     | 1.0               | 3.0                                                             | 1.0   |     |                 |
|     | 430   | KRAK | 45 C   | 0849.6        | 0853.2                     | 6.0               | 130.0                                                           | 15.0  |     |                 |
|     | 3100  | CRIM | 1 S    | 0852.0        | 0853.0                     | 1.0               | 5.0                                                             | 2.0   |     |                 |
|     | 113   | POTS | 42 SER | 1011.7        | 1016.4                     | 11.0              | 4200.0                                                          | 15.0  |     | !!!             |
|     | 204   | IZMI | 41 F   | 1021.3        | 1021.6                     | 7.0               | 200.0                                                           |       |     |                 |
|     | 9100  | GORK | 1 S    | 1024.7        | 1025.3                     | 1.7               | 11.0                                                            | 5.0   |     |                 |
|     | 430   | KRAK | 45 C   | 1036.2        | 1036.8                     | 3.0               | 170.0                                                           | 60.0  |     |                 |
|     | 113   | POTS | 42 SER | 1038.0        | 1043.5                     | 12.0              | 550.0                                                           | 5.0   |     | !!!             |
|     | 2800  | OTTA | 21 GRF | 1100.0        | 1300.0                     | 350.0             | 11.0                                                            |       |     |                 |
|     | 15400 | SGMR | 47 GB  | 1435.6        | 1435.8                     | 1.2               | 59.0                                                            |       |     | QL=3 ST=2 TYP=5 |
|     | 8800  | SGMR | 8 S    | 1435.6        | 1435.8                     | .5                | 22.0                                                            |       |     | QL=3 ST=2 TYP=3 |
|     | 113   | POTS | 4 S/F  | 1446.1        | 1446.5                     | 1.5               | 700.0                                                           | 175.0 |     | !!!             |
|     | 8800  | ATHN | 8 S    | 1526.3        | 1526.6                     | .7                | 36.0                                                            |       |     | QL=5 ST=2 TYP=3 |
|     | 15400 | SGMR | 47 GB  | 1526.5        | 1526.8                     | 1.6               | 200.0                                                           |       |     | QL=3 ST=2 TYP=5 |
|     | 8800  | SGMR | 8 S    | 1526.8        | 1526.8                     | .3                | 33.0                                                            |       |     | QL=3 ST=2 TYP=3 |
|     | 2800  | OTTA | 1 S    | 1539.8        | 1540.0                     | 2.0               | 2.0                                                             | 1.0   |     |                 |
|     | 2800  | OTTA | 8 S    | 1620.2        | 1620.3                     | .7                | 8.8                                                             | 1.8   |     |                 |
|     | 245   | SGMR | 47 GB  | 1623.0        | 1623.6                     | 1.1               | 58.0                                                            |       |     | QL=6 ST=2 TYP=5 |
|     | 2800  | OTTA | 240AR  | 1725.0        | 1820.0                     | 55.0              | 5.4                                                             | 2.7   |     |                 |
|     | 8800  | SGMR | 8 S    | 1726.8        | 1727.3                     |                   | 25.0                                                            |       |     | QL=6 ST=3 TYP=3 |
|     | 8800  | SGMR | 4 S/F  | 1726.8        | 1727.3                     | 3.5               | 25.0                                                            |       |     | QL=6 ST=3 TYP=3 |
|     | 15400 | SGMR | 47 GB  | 1726.8        | 1727.3                     |                   | 82.0                                                            |       |     | QL=6 ST=3 TYP=5 |
|     | 15400 | SGMR | 47 GB  | 1726.8        | 1727.3                     | 4.0               | 82.0                                                            |       |     | QL=6 ST=3 TYP=5 |
|     | 245   | SGMR | 47 GB  | 1728.1        | 1728.3                     |                   | 180.0                                                           |       |     | QL=6 ST=3 TYP=5 |
|     | 2800  | OTTA | 1 S    | 1729.8        | 1730.0                     | 3.0               | 5.8                                                             | 1.8   |     |                 |
|     | 2800  | OTTA | 40 F   | 1921.5        | 1922.5                     | 1.5               | 4.4                                                             |       |     |                 |
|     | 2800  | OTTA | 8 S    | 1934.0        | 1934.1                     | .5                | 3.0                                                             |       |     |                 |
|     | 245   | SGMR | 49 GB  | 1934.0        | 1934.1                     | .6                | 1800.0                                                          |       |     | QL=6 ST=2 TYP=6 |
|     | 245   | SGMR | 47 GB  | 1948.1        | 1950.1                     | 4.7               | 98.0                                                            |       |     | QL=6 ST=2 TYP=5 |
|     | 410   | SGMR | 8 S    | 1950.8        | 1950.8                     | .3                | 35.0                                                            |       |     | QL=6 ST=2 TYP=3 |
|     | 2800  | OTTA | 45 C   | 1951.8        | 1951.9                     | 2.5               | 15.2                                                            | 5.1   |     |                 |
|     | 2695  | PENT | 240 R  | 2000.0        | 2015.0                     | 15.0              | 2.2                                                             | 1.1   |     |                 |
|     | 200   | HIRA | 46 C   | 2013.5        | 2013.7                     | 11.7              | 1300.0                                                          | 86.0  |     | 0               |
|     | 8800  | SGMR | 47 GB  | 2014.5        | 2019.1                     | 9.8               | 86.0                                                            |       |     | QL=3 ST=2 TYP=5 |
|     | 15400 | SGMR | 4 S/F  | 2015.3        | 2015.3                     | 4.8               | 15.0                                                            |       |     | QL=3 ST=2 TYP=3 |
|     | 2800  | OTTA | 46F C  | 2016.0        | 2018.0                     | 6.5               | 154.0                                                           | 34.0  |     |                 |
|     | 1415  | SGMR | 47 GB  | 2016.8        | 2019.1                     | 3.5               | 270.0                                                           |       |     | QL=6 ST=2 TYP=5 |
|     | 610   | SGMR | 49 GB  | 2017.1        | 2019.3                     | 3.2               | 1699.0                                                          |       |     | QL=6 ST=2 TYP=6 |
|     | 410   | SGMR | 49 GB  | 2017.3        | 2018.8                     | 2.8               | 760.0                                                           |       |     | QL=6 ST=2 TYP=6 |
|     | 2695  | SGMR | 47 GB  | 2017.6        | 2018.8                     | 3.5               | 110.0                                                           |       |     | QL=6 ST=2 TYP=5 |
|     | 4995  | SGMR | 8 S    | 2018.3        | 2019.3                     | 2.0               | 39.0                                                            |       |     | QL=3 ST=2 TYP=3 |
|     | 500   | HIRA | 45 C   | 2018.5        | 2019.3                     | 4.6               | 700.0                                                           | 100.0 |     | SR              |
|     | 245   | SGMR | 47 GB  | 2018.6        | 2019.1                     | .9                | 189.0                                                           |       |     | QL=6 ST=2 TYP=5 |
|     | 200   | HIRA | 46 C   | 2101.9        | 2102.1                     | 1.2               | 585.0                                                           | 210.0 |     | SR              |
|     | 2800  | OTTA | 20 GRF | 2115.0        | 2135.0                     | 65.0              | 5.0                                                             | 2.5   |     |                 |
|     | 2000  | TYKW | 20 GRF | 2120.0        | 2135.0                     | 60.0              | 2.0                                                             | 1.0   |     |                 |
|     | 3750  | TYKW | 20 GRF | 2120.0        | 2135.0                     | 55.0              | 7.0                                                             | 3.0   |     |                 |
|     | 9400  | TYKW | 21 GRF | 2120.0        | 2145.0                     | 60.0              | 12.0                                                            | 6.0   |     |                 |
|     | 9400  | TYKW | 5 S    | 2204.5        | 2205.2                     | 4.0               | 22.0                                                            | 8.0   |     |                 |
|     | 2695  | PENT | 20 GRF | 2225.0        | 2250.0                     | 40.0              | 2.4                                                             | 1.2   |     |                 |
|     | 3750  | TYKW | 20 GRF | 2233.0        | 2246.0                     | 35.0              | 5.0                                                             | 2.0   |     |                 |
|     | 9400  | TYKW | 5 S    | 2240.0        | 2244.0                     | 15.0              | 6.0                                                             | 2.0   |     |                 |



32  
Apr 84

# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

APRIL 1984

| Day | Freq  | Sta  | Type   | Start<br>(UT) | Time of<br>Maximum<br>(UT) | Duration<br>(Min) | Flux Density    |                   | Int             | Remarks         |
|-----|-------|------|--------|---------------|----------------------------|-------------------|-----------------|-------------------|-----------------|-----------------|
|     |       |      |        |               |                            |                   | Peak<br>(10 -22 | Mean<br>w/m 2 Hz) |                 |                 |
| 24  | 100   | HIRA | 46 C   | 2245.3        | 2245.3                     | 1.3               | 1800.0          | 245.0             |                 |                 |
|     | 200   | HIRA | 8 S    | 2245.4        | 2245.4                     | .4                | 2300.0          |                   | 0               |                 |
|     | 1000  | TYKW | 5 S    | 2245.5        | 2245.8                     | 1.0               | 13.0            | 2.5               |                 |                 |
|     | 1000  | TYKW | 45 C   | 2247.5        | 2247.7                     | 1.0               | 3.0             | 0.7               |                 |                 |
|     | 500   | HIRA | 45 C   | 2302.4        | 2309.4                     | 10.0              | 6.0             | 2.0               | 0               |                 |
|     | 208   | VORO | 41 F   | 2303.0        | 2318.0                     | 25.0              | 200.0D          |                   |                 |                 |
|     | 500   | HIRA | 45 C   | 2314.3        | 2316.3                     | 4.3               | 6.0             | 3.0               | 0               |                 |
|     | 9400  | TYKW | 28 PRE | 2315.0        | 2356.5                     | 41.5              | 13.0            | 4.0               |                 |                 |
|     | 3750  | TYKW | 45 C   | 2319.0        | 2319.8                     | 5.0               | 6.0             | 1.5               |                 |                 |
|     | 1000  | TYKW | 45 C   | 2319.0        | 2319.9                     | 3.0               | 12.0            | 2.0               |                 |                 |
|     | 200   | HIRA | 8 S    | 2319.2        | 2319.6                     | .6                | 3800.0          |                   | 0               |                 |
|     | 500   | HIRA |        | 2319.2        | 2319.8                     |                   | 69.0            |                   | MR              |                 |
|     | 2695  | PENT | 45 C   | 2319.2        | 2320.5                     | 2.0               | 39.0            | 14.6              |                 |                 |
|     | 500   | HIRA | 46 C   | 2319.2        | 2320.7                     | 3.0               | 71.0            | 30.0              |                 |                 |
|     | 245   | LEAR | 47 GB  | 2319.3        | 2319.8                     | 2.8               | 270.0           |                   | MR              | QL=6 ST=2 TYP=5 |
|     | 610   | LEAR | 4 S/F  | 2319.3        | 2319.8                     | 2.8               | 45.0            |                   | QL=6 ST=2 TYP=3 |                 |
|     | 2000  | TYKW | 45 C   | 2319.4        | 2319.6                     | 3.5               | 17.0            | 7.0               |                 |                 |
|     | 410   | LEAR | 47 GB  | 2319.8        | 2319.8                     | 2.3               | 119.0           |                   | QL=6 ST=2 TYP=5 |                 |
|     | 500   | HIRA | 45 C   | 2329.0        | 2330.6                     | 2.0               | 7.0             | 3.0               | WR              |                 |
|     | 2000  | TYKW | 45 C   | 2330.0        | 2330.9                     | 2.0               | 15.0            | 4.0               |                 |                 |
|     | 3750  | TYKW | 28 PRE | 2332.0        | 2356.5                     | 24.5              | 11.0            | 5.0               |                 |                 |
|     | 2000  | TYKW | 28 PRE | 2340.0        | 2357.0                     | 17.0              | 2.0             | 1.0               |                 |                 |
|     | 500   | HIRA | 8 S    | 2344.0        | 2344.2                     | .4                | 150.0           |                   | MR              |                 |
|     | 1000  | TYKW | 45 C   | 2351.0        | 2353.2                     | 6.0               | 35.0            | 4.0               |                 |                 |
|     | 500   | HIRA | 42 SER | 2351.8        | 2353.0                     | 4.6               | 125.0           |                   | MR              |                 |
|     | 9400  | TYKW | 45 C   | 2352.0        | 2353.3                     | 4.5               | 29.0            | 9.0               |                 |                 |
|     | 3750  | TYKW | 45 C   | 2352.0        | 2353.4                     | 4.5               | 7.0             | 1.5               |                 |                 |
|     | 2695  | PENT | 28 PRE | 2352.0        | 2353.5                     | 5.0               | 19.6            |                   |                 |                 |
|     | 100   | HIRA | 42 SER | 2352.3        | 2354.6                     | 3.2               | 995.0           |                   |                 |                 |
|     | 2000  | TYKW | 5 S    | 2352.5        | 2353.4                     | 1.5               | 48.0            | 14.0              |                 |                 |
|     | 17000 | NOBE | 49 GB  | 2352.7        |                            | 127.0             | 13500.0D        |                   | R-L             |                 |
|     | 2000  | TYKW | 45 C   | 2354.5        | 2355.4                     | 2.5               | 28.0            | 10.0              |                 |                 |
|     | 3750  | TYKW | 47 GB  | 2356.5        | 0000.5                     | 53.5              | 13200.0         | 1000.0            |                 |                 |
|     | 9400  | TYKW | 47 GB  | 2356.5        | 0001.1                     | 55.5              | 20500.0         | 1700.0            |                 |                 |
|     | 2695  | PENT | 47 GB  | 2357.0        | 0001.1                     | 7.0               | 67210.0         | 2025.0            |                 |                 |
|     | 2000  | TYKW | 47 GB  | 2357.0        | 0001.2                     | 41.5              | 41000.0         | 1600.0            |                 |                 |
|     | 80000 | NOBE | 49 GB  | 2358.7        |                            | 121.0             | 14300.0D        |                   |                 |                 |
|     | 35000 | NOBE | 49 GB  | 2358.7        |                            | 121.0             | 17100.0D        |                   | R-L             |                 |
|     | 1000  | TYKW | 47 GB  | 2359.0        | 0001.0                     | 39.5              | 12800.0         | 1360.0            |                 |                 |
|     | 500   | HIRA | 49 GB  | 2359.3        | 0000.4                     | 128.0             | 77000.0U        | 500.0             | WR              |                 |
|     | 500   | HIRA |        | 2359.3        | 0026.3                     |                   | 1150.0          |                   | SR              |                 |
|     | 500   | HIRA |        | 2359.3        | 0047.8                     |                   | 460.0           |                   | MR              |                 |
|     | 500   | HIRA |        | 2359.3        | 0149.0                     |                   | 1360.0          |                   | SR              |                 |
| 25  | 100   | HIRA | 43 NS  | 0150.0        |                            | 380.0D            |                 | 20.0              |                 |                 |
|     | 200   | GORK | 44 NS  | 0330.0E       |                            | 510.0D            |                 | 5.0               |                 |                 |
|     | 100   | GORK | 44 NS  | 0336.0E       |                            | 516.0D            |                 | 30.0              |                 |                 |
|     | 204   | IZMI | 43 NS  | 0600.0        |                            | 360.0             | 10.0            |                   |                 |                 |
|     | 260   | ONDR | 44 NS  | 0610.0E       |                            | 500.0D            | 13.6D           |                   |                 |                 |
|     | 127   | TORN | 44 NS  | 0620.0E       | 1404.8                     | 520.0D            | 190.0           | 3.0               | V=1             |                 |
|     | 33    | UPIC | 43 NS  | 0700.9        |                            | 599.1D            |                 |                   |                 |                 |
|     | 29    | UPIC | 43 NS  | 0701.0        |                            | 599.0D            |                 |                   |                 |                 |
|     | 245   | SGMR | 43 NS  | 1602.0        | 1803.1                     | 433.0D            | 87.0            |                   | QL=6 ST=2 TYP=1 |                 |
|     | 610   | SGMR | 43 NS  | 1946.0        | 2251.8                     | 209.0D            | 119.0           |                   | QL=6 ST=2 TYP=1 |                 |
|     | 200   | HIRA | 44 NS  | 1950.0E       | 0726.0                     | 805.0D            | 75.0            | 20.0              | MR              |                 |
|     | 100   | HIRA | 44 NS  | 1950.0E       | 0827.0                     | 805.0D            | 620.0           | 130.0             | SR              |                 |
|     | 410   | SGMR | 43 NS  | 1950.1        | 1951.6                     | 204.9D            | 13.0            |                   | QL=6 ST=2 TYP=1 |                 |
|     | 208   | VORO | 44 NS  | 2200.0E       |                            | 360.0D            |                 | 15.0              |                 |                 |
|     | 200   | HIRA | 48 C   | 0000.0        | 0000.6                     | 103.0             | 46000.0         | 530.0             | 0               |                 |
|     | 208   | VORO | 20 GRF | 0000.0        | 0003.0                     | 16.0              | 200.0D          |                   |                 |                 |
|     | 200   | HIRA |        | 0000.0        | 0005.6                     |                   | 4100.0          |                   | 0               |                 |
|     | 200   | HIRA |        | 0000.0        | 0051.7                     |                   | 680.0           |                   | WL              |                 |
|     | 100   | HIRA | 48 C   | 0001.0E       | 0001.0U                    | 109.0D            | 10000.0D        | 620.0D            |                 |                 |
|     | 100   | HIRA |        | 0001.0        | 0043.3                     |                   | 4100.0          |                   |                 |                 |
|     | 208   | VORO | 20 GRF | 0016.0        | 0030.0                     | 22.0              | 200.0D          |                   |                 |                 |
|     | 2000  | TYKW | 47 GB  | 0038.5        | 0131.2                     | 261.5             | 3290.0          | 680.0             |                 |                 |
|     | 1000  | TYKW | 47 GB  | 0038.5        | 0137.9                     | 271.5             | 17900.0         | 1600.0            |                 |                 |
|     | 2695  | PENT | 47 GB  | 0039.0        | 0138.5                     | 70.0D             | 2125.0          |                   |                 |                 |
|     | 208   | VORO | 20 GRF | 0044.0        | 0052.0                     | 18.0              | 200.0D          |                   |                 |                 |
|     | 2902  | YUNN | 47 GB  | 0050.0D       | 0138.6                     | 275.0E            | 2236.0D         |                   |                 |                 |
|     | 3750  | TYKW | 5 S    | 0051.0        | 0052.2                     | 3.0               | 6.0             | 3.0               |                 |                 |

# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

33  
Apr 84

APRIL 1984

| Day | Freq  | Sta  | Type   | Start<br>(UT) | Time of<br>Maximum<br>(UT) | Duration<br>(Min) | Flux Density<br>Peak<br>(10 <sup>-22</sup> W/m <sup>2</sup> Hz) | Mean<br>(2 Hz) | Int | Remarks         |
|-----|-------|------|--------|---------------|----------------------------|-------------------|-----------------------------------------------------------------|----------------|-----|-----------------|
| 25  | 9400  | TYKW | 31 ABS | 0052.0        | 0101.0                     | 15.0              | -27.0                                                           | -16.0          |     |                 |
|     | 3750  | TYKW | 31 ABS | 0054.0        | 0057.0                     | 6.0               | -8.0                                                            | -3.5           |     |                 |
|     | 3750  | TYKW | 47 GB  | 0100.0        | 0141.9                     | 240.0             | 2200.0                                                          | 500.0          |     |                 |
|     | 9400  | TYKW | 47 GB  | 0107.0        | 0134.9                     | 143.0             | 1200.0                                                          | 450.0          |     |                 |
|     | 208   | VORO | 1 S    | 0113.0        | 0116.0                     | 7.0               |                                                                 | 170.0          |     |                 |
|     | 200   | HIRA | 27 RF  | 0143.0        | 0224.0                     | 127.0             | 40.0                                                            | 15.0           |     | WR              |
|     | 35000 | NOBE | 30 PBI | 0159.7        | 0200.0                     | 80.0              | 60.0                                                            |                |     | R               |
|     | 17000 | NOBE | 30 PBI | 0159.7        | 0200.0                     | 150.0             | 260.0                                                           |                |     | R               |
|     | 500   | HIRA | 30 PBI | 0208.0        | 0208.0                     | 276.0             | 390.0                                                           | 80.0           |     | WL              |
|     | 17000 | NOBE | 1 S    | 0238.5        | 0239.4                     | 5.0               | 29.0                                                            |                |     | 0               |
|     | 35000 | NOBE | 1 S    | 0238.5        | 0239.4                     | 2.0               | 17.0                                                            |                |     | 0               |
|     | 9400  | TYKW | 30 PBI | 0330.0        |                            | 140.0             | 70.0                                                            | 22.0           |     |                 |
|     | 9400  | TYKW | 45 C   | 0347.0        | 0350.3                     | 11.0              | 70.0                                                            | 14.0           |     |                 |
|     | 17000 | NOBE | 1 S    | 0347.2        | 0350.3                     | 6.0               | 36.0                                                            |                |     | R               |
|     | 35000 | NOBE | 1 S    | 0347.2        | 0602.0                     |                   | 50.0                                                            |                |     | 0               |
|     | 9100  | GORK | 21 GRF | 0408.0E       | 0408.0                     | 511.0D            |                                                                 |                |     |                 |
|     | 2950  | GORK | 21 GRF | 0408.0E       | 0408.0                     | 300.0D            | 37.0                                                            |                |     |                 |
|     | 650   | GORK | 46 C   | 0409.0E       | 0429.0                     | 57.0D             | 97.0                                                            |                |     |                 |
|     | 650   | GORK |        | 0409.0E       | 0439.6                     |                   | 108.0                                                           |                |     |                 |
|     | 9400  | TYKW | 5 S    | 0418.0        | 0419.0                     | 3.0               | 12.0                                                            | 3.0            |     |                 |
|     | 9100  | GORK | 1 S    | 0418.0        | 0418.9                     | 1.6               | 12.0                                                            | 6.0            |     |                 |
|     | 9100  | GORK | 1 S    | 0456.8        | 0457.0                     | .8                | 5.0                                                             | 2.0            |     |                 |
|     | 2000  | TYKW | 30 PBI | 0500.0        |                            | 240.0D            | 22.0                                                            | 10.0D          |     |                 |
|     | 3750  | TYKW | 30 PBI | 0500.0        |                            | 240.0D            | 20.0                                                            | 15.0D          |     |                 |
|     | 650   | GORK | 30 PBI | 0506.0        | 0506.0                     | 69.0              | 30.0                                                            |                |     |                 |
|     | 1000  | TYKW | 29 PBI | 0510.0        |                            | 220.0             | 20.0                                                            | 5.0            |     |                 |
|     | 9400  | TYKW | 5 S    | 0517.0        | 0521.0                     | 15.0              | 4.0                                                             | 2.0            |     |                 |
|     | 500   | HIRA | 45 C   | 0559.0        | 0601.9                     | 4.0               | 18.0                                                            | 6.0            |     | MR              |
|     | 9400  | TYKW | 45 C   | 0600.0        | 0601.9                     | 11.0              | 133.0                                                           | 20.0D          |     |                 |
|     | 9100  | GORK | 4 S/F  | 0600.0U       | 0601.9                     | 3.4U              | 127.0                                                           | 38.0           |     |                 |
|     | 536   | ONDR | 40 F   | 0600.0        | 0602.0                     | 3.5               | 25.0                                                            |                |     |                 |
|     | 8800  | LEAR | 4 S/F  | 0600.0        | 0602.1                     | 4.1               | 30.0                                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 19600 | BERN | 4 S/F  | 0600.4        | 0601.9                     | 10.0              | 147.0                                                           |                |     |                 |
|     | 8400  | BERN | 4 S/F  | 0600.4        | 0601.9                     | 10.0              | 128.0                                                           |                |     |                 |
|     | 17000 | NOBE | 1 S    | 0600.4        | 0601.9                     | 5.0               | 127.0                                                           |                |     | R               |
|     | 3100  | BERN | 4 S/F  | 0600.4        | 0601.9                     | 10.0              | 11.0                                                            |                |     |                 |
|     | 5200  | BERN | 4 S/F  | 0600.4        | 0601.9                     | 10.0              | 44.0                                                            |                |     |                 |
|     | 11800 | BERN | 4 S/F  | 0600.4        | 0601.9                     | 10.0              | 185.0                                                           |                |     |                 |
|     | 8800  | ATHN | 47 GB  | 0600.5        | 0602.1                     | 5.1               | 160.0                                                           |                |     | QL=6 ST=2 TYP=5 |
|     | 15400 | LEAR | 4 S/F  | 0600.5        | 0602.1                     | 9.3               | 45.0                                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 4995  | ATHN | 4 S/F  | 0600.6        | 0602.1                     | 4.0               | 39.0                                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 3100  | CRIM | 1 S    | 0601.4        | 0601.8                     | 2.0               | 10.0                                                            | 3.0            |     |                 |
|     | 650   | GORK | 4 S/F  | 0601.6        | 0602.0                     | .7                | 22.0                                                            | 10.0           |     |                 |
|     | 2000  | TYKW | 5 S    | 0601.7        | 0601.9                     | 0.8               | 3.0                                                             | 1.0            |     |                 |
|     | 2950  | GORK | 1 S    | 0601.7        | 0602.0                     | .6                | 5.1                                                             | 2.5            |     |                 |
|     | 3750  | TYKW | 45 C   | 0603.0E       | 0607.0                     | 7.0D              | 4.0                                                             | 1.5D           |     |                 |
|     | 9100  | GORK | 45 C   | 0606.6        | 0607.0                     | 1.9               | 18.0                                                            |                |     |                 |
|     | 9100  | GORK |        | 0606.6        | 0607.8                     |                   | 9.0                                                             |                |     |                 |
|     | 9400  | TYKW | 20 GRF | 0700.0        | 0733.0                     | 90.0              | 6.0                                                             | 3.0            |     |                 |
|     | 808   | ONDR | 40 F   | 0736.0        | 0738.5                     | 4.0               | 70.0                                                            |                |     |                 |
|     | 536   | ONDR | 40 F   | 0803.5        | 0803.5                     | 1.5               | 10.0                                                            |                |     |                 |
|     | 9400  | TYKW | 45 C   | 0839.0        | 0841.6                     | 9.0               | 270.0                                                           | 80.0           |     |                 |
|     | 9100  | GORK | 4 S/F  | 0839.0        | 0841.2                     | 7.0               | 314.0                                                           | 150.0          |     |                 |
|     | 3100  | CRIM | 3 S    | 0839.2        | 0841.8                     | 6.0               | 21.0                                                            | 7.0            |     |                 |
|     | 3750  | TYKW | 5 S    | 0840.0        | 0841.7                     | 6.0U              | 38.0                                                            | 12.0           |     |                 |
|     | 100   | HIRA | 41 F   | 0840.0        | 0843.0                     | 28.0              | 1300.0                                                          |                |     |                 |
|     | 500   | HIRA | 45 C   | 0840.0        | 0841.1                     | 1.9               | 33.0                                                            | 20.0           |     | 0               |
|     | 11800 | BERN | 4 S/F  | 0840.0        | 0841.3                     | 12.0D             | 326.0                                                           |                |     |                 |
|     | 536   | ONDR | 46 C   | 0840.0        | 0841.5                     | 4.0               | 48.0                                                            |                |     |                 |
|     | 4995  | ATHN | 47 GB  | 0840.0        | 0841.6                     | 7.3               | 119.0                                                           |                |     | QL=6 ST=2 TYP=5 |
|     | 8800  | ATHN | 47 GB  | 0840.0        | 0841.6                     | 9.6               | 260.0                                                           |                |     | QL=6 ST=2 TYP=5 |
|     | 8400  | BERN | 4 S/F  | 0840.0        | 0841.6                     | 12.0D             | 288.0                                                           |                |     |                 |
|     | 5200  | BERN | 4 S/F  | 0840.0        | 0841.6                     | 12.0D             | 139.0                                                           |                |     |                 |
|     | 3100  | BERN | 4 S/F  | 0840.0        | 0841.7                     | 12.0D             | 20.0                                                            |                |     |                 |
|     | 50000 | BERN | 4 S/F  | 0840.0        | 0842.6                     | 12.0D             | 231.0                                                           |                |     |                 |
|     | 19600 | BERN | 4 S/F  | 0840.0        | 0843.1                     | 12.0D             | 259.0                                                           |                |     |                 |
|     | 35000 | BERN | 4 S/F  | 0840.0        | 0843.1                     | 12.0D             | 258.0                                                           |                |     |                 |
|     | 245   | LEAR | 47 GB  | 0840.3        | 0840.8                     | 1.0               | 219.0                                                           |                |     | QL=6 ST=2 TYP=5 |
|     | 8800  | LEAR | 47 GB  | 0840.3        | 0841.3                     | 5.0               | 280.0                                                           |                |     | QL=6 ST=2 TYP=5 |
|     | 100   | GORK | 46 C   | 0840.3        | 0842.5                     | 4.2               | 445.0                                                           |                |     |                 |
|     | 100   | GORK |        | 0840.3        | 0843.0                     |                   | 450.0D                                                          |                |     |                 |

34  
Apr 84

# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

APRIL 1984

| Day | Freq  | Sta  | Type   | Start<br>(UT) | Time of<br>Maximum<br>(UT) | Duration<br>(Min) | Flux Density<br>Peak<br>(10 <sup>-22</sup> W/m <sup>2</sup> Hz) | Mean<br>(2 Hz) | Int | Remarks         |
|-----|-------|------|--------|---------------|----------------------------|-------------------|-----------------------------------------------------------------|----------------|-----|-----------------|
| 25  | 100   | GORK |        | 0840.3        | 0843.8                     |                   | 450.0                                                           |                |     |                 |
|     | 3000  | IZMI | 5 S    | 0840.5        | 0842.0                     | 4.5               | 25.0                                                            | 15.0           |     |                 |
|     | 2950  | GORK | 1 S    | 0840.5        | 0842.6                     | 2.7               | 10.2                                                            | 5.0            |     |                 |
|     | 950   | GORK | 22 GRF | 0840.5        | 0851.0                     | 172.00            | 40.0                                                            |                |     |                 |
|     | 200   | GORK | 4 S/F  | 0840.6        | 0841.3                     | 2.0               | 17.0                                                            |                |     |                 |
|     | 4995  | LEAR | 47 GB  | 0840.6        | 0841.6                     | 4.0               | 100.0                                                           |                |     | QL=6 ST=2 TYP=5 |
|     | 430   | KRAK | 8 S    | 0841.0        | 0841.2                     | .4                | 15.0                                                            |                |     |                 |
|     | 15400 | LEAR | 47 GB  | 0841.0        | 0841.3                     | 4.1               | 250.0                                                           |                |     | QL=6 ST=2 TYP=5 |
|     | 2695  | ATHN | 8 S    | 0841.1        | 0841.3                     | 1.4               | 15.0                                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 650   | GORK | 8 S    | 0841.1        | 0841.4                     | .8                | 30.0                                                            | 13.0           |     |                 |
|     | 610   | LEAR | 47 GB  | 0841.3        | 0841.5                     | .8                | 63.0                                                            |                |     | QL=6 ST=2 TYP=5 |
|     | 2695  | LEAR | 8 S    | 0841.3        | 0841.8                     | .5                | 16.0                                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 950   | GORK | 46 C   | 0846.5        | 0846.7                     | 1.6               | 35.0                                                            |                |     |                 |
|     | 950   | GORK |        | 0846.5        | 0847.0                     |                   | 24.0                                                            |                |     |                 |
|     | 536   | ONDR | 46 C   | 0918.0        | 0918.5                     | 2.0               | 33.0                                                            |                |     |                 |
|     | 430   | KRAK | 8 S    | 0918.3        | 0918.7                     | .6                | 24.0                                                            |                |     |                 |
|     | 810   | KRAK | 8 S    | 0918.7        | 0918.7                     | .2                | 1.0                                                             |                |     |                 |
|     | 2950  | GORK | 21 GRF | 0951.1        | 1106.0                     | 168.00            | 8.5                                                             | 4.0            |     |                 |
|     | 950   | GORK | 20 GRF | 0957.0        | 1122.0                     | 123.00            | 5.0                                                             |                |     |                 |
|     | 430   | KRAK | 42 SER | 1017.8        | 1017.8                     | 56.0              | 15.0                                                            |                |     |                 |
|     | 430   | KRAK |        | 1017.8        | 1042.3                     |                   | 13.0                                                            |                |     |                 |
|     | 430   | KRAK |        | 1017.8        | 1102.1                     |                   | 18.0                                                            |                |     |                 |
|     | 430   | KRAK |        | 1017.8        | 1113.3                     |                   | 37.0                                                            |                |     |                 |
|     | 2800  | OTTA | 20 GRF | 1055.0        | 1105.0                     | 25.0              | 4.2                                                             | 1.4            |     |                 |
|     | 536   | ONDR | 46 C   | 1055.0        | 1229.5                     | 115.0             | 386.0                                                           |                |     |                 |
|     | 650   | GORK | 47 GB  | 1058.5E       | 1224.7                     | 140.00            | 700.0                                                           |                |     |                 |
|     | 950   | GORK |        | 1058.5E       | 1229.00                    |                   | 3900.00                                                         |                |     |                 |
|     | 610   | SGMR | 47 GB  | 1058.6        | 1059.5                     | 20.9              | 36.0                                                            |                |     | QL=6 ST=3 TYP=5 |
|     | 3100  | BERN | 45 C   | 1101.1        | 1102.8                     | 10.0              | 7.0                                                             |                |     |                 |
|     | 5200  | BERN | 45 C   | 1101.1        | 1105.9                     | 10.0              | 44.0                                                            |                |     |                 |
|     | 11800 | BERN | 45 C   | 1101.1        | 1105.9                     | 10.0              | 59.0                                                            |                |     |                 |
|     | 8400  | BERN | 45 C   | 1101.1        | 1105.9                     | 10.0              | 67.0                                                            |                |     |                 |
|     | 19600 | BERN | 45 C   | 1101.1        | 1106.6                     | 10.0              | 31.0                                                            |                |     |                 |
|     | 810   | KRAK | 8 S    | 1101.6        | 1101.6                     | .2                | 10.0                                                            |                |     |                 |
|     | 9100  | GORK | 46 C   | 1102.0        | 1102.4                     | 2.5               | 19.0                                                            |                |     |                 |
|     | 9100  | GORK |        | 1102.0        | 1104.0                     |                   | 9.0                                                             |                |     |                 |
|     | 8800  | SGMR | 47 GB  | 1102.6        | 1102.8                     | 6.7               | 27.0                                                            |                |     | QL=6 ST=3 TYP=5 |
|     | 4995  | SGMR | 8 S    | 1102.8        | 1102.8                     |                   | 15.0                                                            |                |     | QL=6 ST=3 TYP=3 |
|     | 4995  | SGMR | 8 S    | 1102.8        | 1102.8                     | .3                | 15.0                                                            |                |     | QL=3 ST=3 TYP=3 |
|     | 4995  | SGMR | 8 S    | 1102.8        | 1102.8                     | .3                | 15.0                                                            |                |     | QL=6 ST=3 TYP=3 |
|     | 15400 | SGMR | 4 S/F  | 1102.8        | 1103.1                     | 16.7              | 20.0                                                            |                |     | QL=3 ST=3 TYP=3 |
|     | 4995  | ATHN | 4 S/F  | 1105.3        | 1105.6                     | 3.0               | 22.0                                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 8800  | ATHN | 8 S    | 1105.6        | 1105.8                     | 2.0               | 49.0                                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 9100  | GORK | 3 S    | 1105.6        | 1105.9                     | 3.0               | 50.0                                                            | 19.0           |     |                 |
|     | 245   | SGMR | 8 S    | 1115.8        | 1117.8                     | 2.00              | 18.0                                                            |                |     | QL=6 ST=3 TYP=3 |
|     | 2800  | OTTA | 21 GRF | 1122.0        | 1215.0                     | 90.0              | 3.6                                                             | 2.8            |     |                 |
|     | 113   | POTS | 4 S/F  | 1133.1        | 1133.6                     | 1.4               | 250.0                                                           | 30.0           |     |                 |
|     | 430   | KRAK | 4 S/F  | 1140.8        | 1141.0                     | 3.0               | 61.0                                                            | 15.0           |     |                 |
|     | 2800  | OTTA | 1 S    | 1225.0        | 1228.5                     | 6.0               | 5.4                                                             | 2.0            |     |                 |
|     | 430   | KRAK | 45 C   | 1225.7        | 1228.5                     | 8.0               | 48.0                                                            | 7.0            |     |                 |
|     | 9100  | GORK | 46 C   | 1225.8        | 1227.6                     | 6.8               | 116.0                                                           | 38.0           |     |                 |
|     | 9100  | GORK |        | 1225.8        | 1228.7                     |                   | 97.0                                                            |                |     |                 |
|     | 8800  | ATHN | 47 GB  | 1226.0        | 1227.5                     | 5.3               | 93.0                                                            |                |     | QL=5 ST=2 TYP=5 |
|     | 11800 | BERN | 4 S/F  | 1226.0        | 1227.6                     | 6.00              | 125.0                                                           |                |     |                 |
|     | 19600 | BERN | 4 S/F  | 1226.0        | 1227.6                     | 6.00              | 47.0                                                            |                |     |                 |
|     | 8400  | BERN | 4 S/F  | 1226.0        | 1227.6                     | 6.00              | 125.0                                                           |                |     |                 |
|     | 3000  | POTS | 3 S    | 1226.0        | 1228.2                     | 6.0               | 9.0                                                             |                |     |                 |
|     | 3100  | BERN | 4 S/F  | 1226.0        | 1228.5                     | 6.00              | 12.0                                                            |                |     |                 |
|     | 4995  | ATHN | 4 S/F  | 1226.0        | 1228.5                     | 5.6               | 44.0                                                            |                |     | QL=5 ST=2 TYP=3 |
|     | 5200  | BERN | 4 S/F  | 1226.0        | 1228.8                     | 6.00              | 58.0                                                            |                |     |                 |
|     | 8800  | SGMR | 47 GB  | 1226.5        | 1228.0                     | 6.6               | 119.0                                                           |                |     | QL=6 ST=2 TYP=5 |
|     | 810   | KRAK | 4 S/F  | 1226.8        | 1228.2                     | 3.5               | 20.0                                                            | 10.0           |     |                 |
|     | 4995  | SGMR | 4 S/F  | 1226.8        | 1229.1                     | 4.3               | 44.0                                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 15400 | SGMR | 47 GB  | 1227.0        | 1228.0                     | 6.1               | 74.0                                                            |                |     | QL=6 ST=2 TYP=5 |
|     | 808   | ONDR | 46 C   | 1227.0        | 1228.6                     | 5.0               | 113.0                                                           |                |     |                 |
|     | 950   | GORK | 46 C   | 1227.2        | 1227.2                     | 4.5               | 19.00                                                           |                |     |                 |
|     | 1470  | POTS | 4 S/F  | 1227.2        | 1227.9                     | 4.8               | 24.0                                                            |                |     |                 |
|     | 2950  | GORK | 1 S    | 1227.2        | 1228.3                     | 2.8               | 4.2                                                             | 2.0            |     |                 |
|     | 950   | GORK |        | 1227.2        | 1228.7                     |                   | 19.0                                                            |                |     |                 |
|     | 1415  | ATHN | 4 S/F  | 1227.3        | 1228.5                     | 3.3               | 38.0                                                            |                |     | QL=5 ST=2 TYP=3 |
|     | 1415  | SGMR | 8 S    | 1228.0        | 1228.1                     | 1.8               | 48.0                                                            |                |     | QL=6 ST=2 TYP=3 |

# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

35  
Apr 84

APRIL 1984

| Day | Freq  | Sta  | Type   | Start<br>(UT) | Time of<br>Maximum<br>(UT) | Duration<br>(Min) | Flux Density<br>Peak<br>(10 <sup>-22</sup> W/m <sup>2</sup> Hz) | Mean<br>(W/m <sup>2</sup> Hz) | Int | Remarks         |
|-----|-------|------|--------|---------------|----------------------------|-------------------|-----------------------------------------------------------------|-------------------------------|-----|-----------------|
| 25  | 610   | SGMR | 49 GB  | 1229.8E       | 1230.0                     | 12.70             | 610.0                                                           |                               |     | QL=2 ST=2 TYP=6 |
|     | 410   | SGMR | 4 S/F  | 1230.0        | 1231.5                     | 2.3               | 23.0                                                            |                               |     | QL=6 ST=2 TYP=3 |
|     | 536   | ONDR | 46 C   | 1254.0        |                            | 36.0              | 83.0                                                            |                               |     |                 |
|     | 81    | KRAK | 47 GB  | 1258.3        | 1301.8                     | 16.5              | 700.00                                                          | 100.0                         |     |                 |
|     | 803   | ONDR | 47 GB  | 1259.0        |                            | 16.0              | 626.0                                                           | 280.0                         |     |                 |
|     | 430   | KRAK | 45 C   | 1305.5        | 1306.8                     | 2.5               | 25.0                                                            | 12.0                          |     |                 |
|     | 245   | SGMR | 8 S    | 1327.8        | 1327.8                     | .3                | 37.0                                                            |                               |     | QL=6 ST=2 TYP=3 |
|     | 410   | SGMR | 8 S    | 1329.8        | 1330.0                     | .3                | 17.0                                                            |                               |     | QL=6 ST=2 TYP=3 |
|     | 536   | ONDR | 46 C   | 1330.0        | 1336.0                     | 25.0              | 35.0                                                            |                               |     |                 |
|     | 245   | SGMR | 8 S    | 1330.5        | 1330.6                     | .5                | 36.0                                                            |                               |     | QL=6 ST=2 TYP=3 |
|     | 9500  | POTS | 4 S/F  | 1403.0        | 1405.4                     | 11.0              | 280.0                                                           |                               |     |                 |
|     | 113   | POTS | 4 S/F  | 1403.8        | 1404.8                     | 4.4               | 350.0                                                           | 120.0                         |     | !!!             |
|     | 2695  | PENT | 3 S    | 1404.0        | 1405.5                     | 3.0               | 14.2                                                            | 6.8                           |     |                 |
|     | 3000  | POTS | 3 S    | 1404.0        | 1405.0                     | 4.0               | 25.0                                                            |                               |     |                 |
|     | 3100  | BERN | 3 S    | 1404.0        | 1405.3                     | 8.0               | 32.0                                                            |                               |     |                 |
|     | 5200  | BERN | 3 S    | 1404.0        | 1405.3                     | 8.0               | 139.0                                                           |                               |     |                 |
|     | 11800 | BERN | 3 S    | 1404.0        | 1405.5                     | 8.0               | 364.0                                                           |                               |     |                 |
|     | 1470  | POTS | 4 S/F  | 1404.0        | 1405.5                     | 5.0               | 52.0                                                            |                               |     |                 |
|     | 19600 | BERN | 3 S    | 1404.0        | 1405.6                     | 8.0               | 195.0                                                           |                               |     |                 |
|     | 8400  | BERN | 3 S    | 1404.0        | 1405.6                     | 8.0               | 313.0                                                           |                               |     |                 |
|     | 536   | ONDR | 46 C   | 1404.0        | 1406.0                     | 3.0               | 88.0                                                            |                               |     |                 |
|     | 4995  | SGMR | 47 GB  | 1404.3        | 1405.8                     | 4.8               | 93.0                                                            |                               |     | QL=6 ST=2 TYP=5 |
|     | 8800  | SGMR | 47 GB  | 1404.3        | 1406.0                     | 6.2               | 290.0                                                           |                               |     | QL=6 ST=2 TYP=5 |
|     | 808   | ONDR | 46 C   | 1404.5        |                            | 3.0               | 141.0                                                           | 129.0                         |     | UNCERTAIN       |
|     | 35000 | BERN | 3 S    | 1404.5        | 1405.6                     | 4.0               | 121.0                                                           |                               |     |                 |
|     | 15400 | SGMR | 47 GB  | 1404.5        | 1406.0                     | 4.6               | 280.0                                                           |                               |     | QL=6 ST=2 TYP=5 |
|     | 4995  | ATHN | 47 GB  | 1404.6        | 1406.3                     | 4.0               | 95.0                                                            |                               |     | QL=5 ST=2 TYP=5 |
|     | 234   | POTS | 4 S/F  | 1404.8        | 1405.2                     | 1.5               | 275.0                                                           | 90.0                          |     | !!!             |
|     | 8800  | ATHN | 47 GB  | 1404.8        | 1406.6                     | 5.3               | 219.0                                                           |                               |     | QL=5 ST=2 TYP=5 |
|     | 245   | SGMR | 47 GB  | 1405.1        | 1405.6                     | 2.2               | 370.0                                                           |                               |     | QL=6 ST=2 TYP=5 |
|     | 410   | SGMR | 47 GB  | 1405.1        | 1405.6                     | 1.9               | 189.0                                                           |                               |     | QL=6 ST=2 TYP=5 |
|     | 1415  | SGMR | 47 GB  | 1405.1        | 1405.8                     | 1.7               | 59.0                                                            |                               |     | QL=6 ST=2 TYP=5 |
|     | 610   | SGMR | 47 GB  | 1405.1        | 1406.0                     | 2.0               | 110.0                                                           |                               |     | QL=6 ST=2 TYP=5 |
|     | 2695  | SGMR | 8 S    | 1405.5        | 1405.6                     | .6                | 17.0                                                            |                               |     | QL=6 ST=2 TYP=3 |
|     | 1415  | ATHN | 47 GB  | 1405.5        | 1406.6                     | 2.8               | 52.0                                                            |                               |     | QL=5 ST=2 TYP=5 |
|     | 2695  | ATHN | 8 S    | 1405.6        | 1406.6                     | 2.0               | 13.0                                                            |                               |     | QL=5 ST=2 TYP=3 |
|     | 2800  | OTTA | 29 PBI | 1407.0        | 1407.0                     | 40.0              | 3.4                                                             | 1.7                           |     |                 |
|     | 33    | UPIC | 48 C   | 1453.7        | 1456.6                     | 8.4               |                                                                 |                               |     |                 |
|     | 29    | UPIC | 46 C   | 1453.8        | 1456.6                     | 7.8               |                                                                 |                               |     |                 |
|     | 410   | SGMR | 47 GB  | 1454.3        | 1454.3                     | .3                | 55.0                                                            |                               |     | QL=6 ST=2 TYP=5 |
|     | 610   | SGMR | 47 GB  | 1454.3        | 1454.3                     | .5                | 230.0                                                           |                               |     | QL=6 ST=2 TYP=5 |
|     | 5200  | BERN | 45 C   | 1455.1        | 1457.00                    | 12.0              | 57.0                                                            |                               |     |                 |
|     | 8400  | BERN | 45 C   | 1455.1        | 1457.3                     | 12.0              | 197.0                                                           |                               |     |                 |
|     | 11800 | BERN | 45 C   | 1455.1        | 1459.7                     | 12.0              | 366.0                                                           |                               |     |                 |
|     | 19600 | BERN | 45 C   | 1455.1        | 1459.7                     | 12.0              | 419.0                                                           |                               |     |                 |
|     | 50000 | BERN | 45 C   | 1455.1        | 1459.8                     | 9.00              | 272.0                                                           |                               |     |                 |
|     | 35000 | BERN | 45 C   | 1455.1        | 1459.9                     | 12.0              | 258.0                                                           |                               |     |                 |
|     | 8800  | ATHN | 47 GB  | 1455.8        | 1457.6                     | 10.0              | 150.0                                                           |                               |     | QL=6 ST=3 TYP=5 |
|     | 2800  | OTTA | 4 S/F  | 1456.0        | 1458.0                     | 10.5              | 46.4                                                            | 8.6                           |     |                 |
|     | 3000  | POTS | 40 F   | 1456.0        | 1458.0                     | 11.0              | 19.0                                                            |                               |     |                 |
|     | 9500  | POTS | 46 C   | 1456.0        | 1458.1                     | 13.00             | 195.0                                                           |                               |     |                 |
|     | 1415  | ATHN | 49 GB  | 1456.0        | 1500.6                     | 7.6               | 780.0                                                           |                               |     | QL=6 ST=3 TYP=6 |
|     | 1470  | POTS | 46 C   | 1456.0        | 1501.0                     | 7.00              | 485.0                                                           |                               |     |                 |
|     | 4995  | ATHN | 4 S/F  | 1456.1        | 1501.6                     | 8.4               | 38.0                                                            |                               |     | QL=6 ST=3 TYP=3 |
|     | 113   | POTS | 4 S/F  | 1456.2        | 1456.6                     | 3.8               | 9000.0                                                          | 50.0                          |     | !!!             |
|     | 234   | POTS | 4 S/F  | 1456.2        | 1457.0                     | 5.4               | 5200.0                                                          | 40.0                          |     | !!!/V           |
|     | 2695  | ATHN | 47 GB  | 1456.6        | 1457.6                     | 3.0               | 95.0                                                            |                               |     | QL=6 ST=3 TYP=5 |
|     | 410   | SGMR | 4 S/F  | 1611.5        | 1612.1                     | 4.3               | 21.0                                                            |                               |     | QL=6 ST=2 TYP=3 |
|     | 245   | SGMR | 4 S/F  | 1612.8        | 1613.0                     | 2.2               | 19.0                                                            |                               |     | QL=6 ST=2 TYP=3 |
|     | 2800  | OTTA | 240 R  | 1715.0        | 1742.0                     | 27.0              | 7.4                                                             | 2.0                           |     |                 |
|     | 2800  | OTTA | 21 GRF | 1743.0        | 1814.0                     | 70.0              | 8.4                                                             | 4.0                           |     |                 |
|     | 2800  | OTTA | 22 GRF | 1745.0        | 1747.5                     | 11.0              | 9.6                                                             | 3.4                           |     |                 |
|     | 2695  | SGMR | 8 S    | 1747.1        | 1748.1                     | 1.5               | 17.0                                                            |                               |     | QL=6 ST=2 TYP=3 |
|     | 1415  | SGMR | 8 S    | 1747.8        | 1747.8                     | .3                | 16.0                                                            |                               |     | QL=6 ST=2 TYP=3 |
|     | 8800  | SGMR | 8 S    | 1747.8        | 1749.1                     | 1.3               | 15.0                                                            |                               |     | QL=6 ST=2 TYP=3 |
|     | 4995  | SGMR | 4 S/F  | 1747.8        | 1750.1                     | 14.0              | 26.0                                                            |                               |     | QL=6 ST=2 TYP=3 |
|     | 2800  | OTTA | 40 F   | 1807.4        | 1807.5                     | 2.5               | 2.8                                                             |                               |     |                 |
|     | 1415  | SGMR | 8 S    | 1904.3        | 1905.3                     | 1.5               | 18.0                                                            |                               |     | QL=6 ST=2 TYP=3 |
|     | 410   | SGMR | 8 S    | 1905.0        | 1905.1                     | 1.5               | 27.0                                                            |                               |     | QL=6 ST=2 TYP=3 |
|     | 610   | SGMR | 4 S/F  | 1906.5        | 1907.0                     | 2.6               | 17.0                                                            |                               |     | QL=6 ST=2 TYP=3 |
|     | 1415  | SGMR | 47 GB  | 1910.8        | 1913.5                     | 5.3               | 86.0                                                            |                               |     | QL=6 ST=2 TYP=5 |

SOLAR RADIO EMISSION  
OUTSTANDING OCCURRENCES

APRIL 1984

| Day | Freq  | Sta  | Type   | Start<br>(UT) | Time of<br>Maximum<br>(UT) | Duration<br>(Min) | Flux Density    |                   | Int | Remarks         |
|-----|-------|------|--------|---------------|----------------------------|-------------------|-----------------|-------------------|-----|-----------------|
|     |       |      |        |               |                            |                   | Peak<br>(10 -22 | Mean<br>W/m 2 Hz) |     |                 |
| 25  | 610   | SGMR | 8 S    | 1911.6        | 1912.6                     | 1.5               | 20.0            |                   |     | QL=6 ST=2 TYP=3 |
|     | 410   | SGMR | 8 S    | 1913.3        | 1913.5                     | .3                | 11.0            |                   |     | QL=6 ST=2 TYP=3 |
|     | 2800  | OTTA | 4 S/F  | 1920.0        | 1920.5                     | 2.0               | 21.0            | 6.0               |     |                 |
|     | 610   | SGMR | 8 S    | 1922.6        | 1923.5                     | 1.0               | 19.0            |                   |     | QL=6 ST=2 TYP=3 |
|     | 410   | SGMR | 8 S    | 1922.6        | 1924.3                     | 1.7               | 16.0            |                   |     | QL=6 ST=2 TYP=3 |
|     | 2800  | OTTA | 2 S/F  | 1931.0        | 1933.2                     | 6.0               | 7.4             | 2.0               |     |                 |
|     | 4995  | SGMR | 8 S    | 1932.3        | 1933.6                     | 1.8               | 22.0            |                   |     | QL=6 ST=2 TYP=3 |
|     | 610   | SGMR | 47 GB  | 1932.3        | 1933.8                     | 14.0              | 53.0            |                   |     | QL=6 ST=2 TYP=5 |
|     | 8800  | SGMR | 8 S    | 1933.1        | 1933.6                     | 1.0               | 30.0            |                   |     | QL=6 ST=2 TYP=3 |
|     | 15400 | SGMR | 8 S    | 1933.5        | 1933.6                     | .5                | 16.0            |                   |     | QL=6 ST=2 TYP=3 |
|     | 1415  | SGMR | 8 S    | 1933.5        | 1933.8                     | .8                | 27.0            |                   |     | QL=6 ST=2 TYP=3 |
|     | 410   | SGMR | 8 S    | 1933.6        | 1933.8                     | .4                | 15.0            |                   |     | QL=6 ST=2 TYP=3 |
|     | 2800  | OTTA | 21 GRF | 2010.0        | 2030.0                     | 65.0              | 3.4             | 2.4               |     |                 |
|     | 2800  | OTTA | 1 S    | 2103.9        | 2104.1                     | 2.0               | 2.4             | 1.2               |     |                 |
|     | 3750  | TYKW | 21 GRF | 2130.0        | 2323.0                     | 310.0             | 15.0            | 7.0               |     |                 |
|     | 9400  | TYKW | 20 GRF | 2132.0        | 2143.0                     | 75.0              | 8.0             | 4.0               |     |                 |
|     | 2800  | OTTA | 240AR  | 2137.0        | 2203.0                     | 26.0              | 5.6             | 2.6               |     |                 |
|     | 3750  | TYKW | 20 GRF | 2138.0        | 2143.0                     | 70.0              | 4.0             | 2.0               |     |                 |
|     | 2800  | OTTA | 1 S    | 2140.0        | 2143.3                     | 8.0               | 5.4             | 1.8               |     |                 |
|     | 1000  | TYKW | 45 C   | 2201.0        | 2201.3                     | 0.5               | 5.0             | 1.5               |     |                 |
|     | 2695  | PENT | 21 GRF | 2255.0        | 2325.0                     | 70.0              | 5.2             | 2.6               |     |                 |
|     | 9400  | TYKW | 45 C   | 2256.0        | 2303.3                     | 9.0               | 8.0             | 2.5               |     |                 |
|     | 3750  | TYKW | 45 C   | 2257.0        | 2303.3                     | 8.0               | 2.0             | 0.7               |     |                 |
|     | 1000  | TYKW | 45 C   | 2259.5        | 2259.7                     | 0.5               | 2.0             | 0.5               |     |                 |
|     | 1000  | TYKW | 5 S    | 2303.0        | 2303.4                     | 1.0               | 5.0             | 1.0               |     |                 |
|     | 9400  | TYKW | 21 GRF | 2307.0        | 2310.0                     | 50.0              | 7.0             | 3.0               |     |                 |
|     | 100   | HIRA | 46 C   | 2307.3        | 2307.7                     | 1.3               | 1150.0          | 360.0             |     | SR              |
|     | 2000  | TYKW | 21 GRF | 2313.0        | 2324.0                     | 45.0              | 2.0             | 1.0               |     |                 |
|     | 500   | HIRA | 42 SER | 2330.9        | 2331.3                     | 10.0              | 210.0           |                   |     | WR              |
|     | 3750  | TYKW | 45 C   | 2331.0        | 2331.7                     | 6.0               | 9.0             | 3.0               |     |                 |
|     | 2000  | TYKW | 5 S    | 2331.0        | 2331.7                     | 2.0               | 21.0            | 4.0               |     |                 |
|     | 2695  | PENT | 1 S    | 2331.0        | 2331.7                     | 2.0               | 9.0             | 4.0               |     |                 |
|     | 1000  | TYKW | 5 S    | 2331.0        | 2331.8                     | 2.0               | 54.0            | 12.0              |     |                 |
|     | 208   | VORO | 41 F   | 2331.0        | 2332.0                     | 4.0               | 200.00          |                   |     |                 |
|     | 9400  | TYKW | 45 C   | 2331.0        | 2334.2                     | 7.0               | 17.0            | 5.0               |     |                 |
|     | 200   | HIRA |        | 2331.0        | 2331.8                     |                   | 450.0           |                   |     | MR              |
|     | 100   | HIRA | 42 SER | 2331.0        | 2331.9                     | 3.0               | 1400.0          |                   |     | O               |
|     | 100   | HIRA |        | 2331.0        | 2333.3                     |                   | 250.0           |                   |     | WR              |
|     | 200   | HIRA | 42 SER | 2331.0        | 2333.7                     | 4.4               | 880.0           |                   |     | WR              |
|     | 410   | LEAR | 47 GB  | 2331.1        | 2332.0                     | 4.5               | 98.0            |                   |     | QL=6 ST=2 TYP=5 |
|     | 245   | LEAR | 47 GB  | 2331.6        | 2332.0                     | 4.0               | 360.0           |                   |     | QL=6 ST=2 TYP=5 |
|     | 1415  | LEAR | 47 GB  | 2331.6        | 2334.1                     | 3.5               | 119.0           |                   |     | QL=6 ST=2 TYP=5 |
|     | 2000  | TYKW | 5 S    | 2333.5        | 2334.3                     | 3.5               | 2.0             | 0.7               |     |                 |
|     | 1000  | TYKW | 45 C   | 2333.6        | 2334.3                     | 2.5               | 27.0            | 9.0               |     |                 |
|     | 9400  | TYKW | 30 PBI | 2338.0        |                            | 18.0              | 4.0             | 2.0               |     |                 |
|     | 1000  | TYKW | 45 C   | 2338.0        | 2339.9                     | 4.0               | 7.0             | 2.0               |     |                 |
|     | 3750  | TYKW | 5 S    | 2339.0        | 2341.0                     | 5.0               | 4.0             | 1.0               |     |                 |
|     | 9400  | TYKW | 45 C   | 2339.5        | 2341.1                     | 12.0              | 8.0             | 3.0               |     |                 |
|     | 245   | LEAR | 8 S    | 2353.5        | 2353.6                     | .3                | 16.0            |                   |     | QL=6 ST=2 TYP=3 |
|     | 1000  | TYKW | 45 C   | 2356.4        | 2357.2                     | 1.5               | 24.0            | 3.0               |     |                 |
|     | 610   | LEAR | 47 GB  | 2356.8        | 2357.0                     | 1.0               | 200.0           |                   |     | QL=6 ST=2 TYP=5 |
|     | 410   | LEAR | 8 S    | 2358.1        | 2358.6                     | 1.5               | 30.0            |                   |     | QL=6 ST=2 TYP=3 |
| 26  | 208   | VORO | 44 NS  | 0300.0E       |                            | 300.00            |                 | 26.0              |     |                 |
|     | 245   | LEAR | 43 NS  | 0315.0        | 0826.0                     | 391.00            | 219.0           |                   |     | QL=6 ST=2 TYP=1 |
|     | 200   | GORK | 44 NS  | 0338.0E       |                            | 480.00            |                 | 20.0              |     |                 |
|     | 100   | GORK | 44 NS  | 0338.0E       |                            | 480.00            |                 | 1000.0            |     |                 |
|     | 410   | LEAR | 43 NS  | 0430.0        | 0542.3                     | 316.00            | 42.0            |                   |     | QL=5 ST=2 TYP=1 |
|     | 204   | IZMI | 44 NS  | 0600.0E       |                            | 360.00            | 40.0            |                   |     |                 |
|     | 260   | ONDR | 44 NS  | 0610.0E       |                            | 500.00            | 136.00          |                   |     |                 |
|     | 536   | ONDR | 44 NS  | 0614.0E       |                            | 496.00            | 48.0            |                   |     |                 |
|     | 127   | TORN | 44 NS  | 0620.0E       |                            | 60.00             |                 | 550.00            |     | V=1, DISTURBED  |
|     | 29    | UPIC | 44 NS  | 0639.5E       |                            | 620.50            |                 |                   |     |                 |
|     | 33    | UPIC | 43 NS  | 0641.0        |                            | 619.0             |                 |                   |     |                 |
|     | 430   | KRAK | 43 NS  | 0953.0        |                            | 186.00            | 15.0            |                   |     |                 |
|     | 245   | SGMR | 43 NS  | 1006.0        | 1517.6                     | 790.00            | 620.0           |                   |     | QL=6 ST=2 TYP=1 |
|     | 410   | SGMR | 43 NS  | 1146.0        | 1259.8                     | 690.00            | 100.0           |                   |     | QL=5 ST=2 TYP=1 |
|     | 245   | PALE | 43 NS  | 1622.0        | 2055.6                     | 698.00            | 420.0           |                   |     | QL=6 ST=2 TYP=1 |
|     | 100   | HIRA | 44 NS  | 1948.0E       | 0607.0                     | 810.00            | 580.0           | 170.0             |     | SR              |
|     | 200   | HIRA | 44 NS  | 1948.0E       | 0747.0                     | 810.00            | 70.0            | 35.0              |     | MR              |
|     | 245   | LEAR | 43 NS  | 2258.0        | 0027.6                     | 647.00            | 169.0           |                   |     | QL=5 ST=2 TYP=1 |

# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

37  
Apr 84

APRIL 1984

| Day | Freq  | Sta  | Type   | Start<br>(UT) | Time of<br>Maximum<br>(UT) | Duration<br>(Min) | Flux Density                                    |                | Int | Remarks         |
|-----|-------|------|--------|---------------|----------------------------|-------------------|-------------------------------------------------|----------------|-----|-----------------|
|     |       |      |        |               |                            |                   | Peak<br>(10 <sup>-22</sup> W/m <sup>2</sup> Hz) | Mean<br>(2 Hz) |     |                 |
| 26  | 610   | LEAR | 43 NS  | 2258.0        | 0029.8                     | 485.0             | 20.0                                            |                |     | QL=6 ST=2 TYP=1 |
|     | 410   | LEAR | 43 NS  | 2258.0        | 0119.1                     | 647.00            | 30.0                                            |                |     | QL=6 ST=2 TYP=1 |
|     | 9400  | TYKW | 45 C   | 0002.0        | 0015.0                     | 22.0              | 7.0                                             | 2.5D           |     |                 |
|     | 245   | LEAR | 8 S    | 0008.8        | 0009.3                     | .8                | 38.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 245   | LEAR | 8 S    | 0015.8        | 0015.8                     | .3                | 24.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 1000  | TYKW | 5 S    | 0022.0        | 0022.6                     | 2.0               | 2.0                                             | 0.5            |     |                 |
|     | 2000  | TYKW | 28 PRE | 0030.0        | 0039.0                     | 9.0               | 1.5                                             | 0.7            |     |                 |
|     | 1000  | TYKW | 5 S    | 0031.0        | 0031.5                     | 1.5               | 1.0                                             | 0.3            |     |                 |
|     | 245   | LEAR | 47 GB  | 0032.8        | 0042.8                     | 15.8              | 219.0                                           |                |     | QL=6 ST=2 TYP=5 |
|     | 4995  | LEAR | 47 GB  | 0033.8        | 0041.3                     | 15.5              | 58.0                                            |                |     | QL=6 ST=2 TYP=5 |
|     | 9400  | TYKW | 28 PRE | 0035.0        | 0039.0                     | 4.0               | 5.0                                             | 2.0            |     |                 |
|     | 2902  | YUNN | 4 S/F  | 0035.00       | 0044.8                     | 22.0E             | 49.00                                           |                |     |                 |
|     | 8800  | LEAR | 47 GB  | 0035.1        | 0041.3                     | 18.0              | 169.0                                           |                |     | QL=6 ST=2 TYP=5 |
|     | 3750  | TYKW | 45 C   | 0037.0        | 0044.8                     | 13.0              | 150.0                                           | 17.0           |     |                 |
|     | 2695  | LEAR | 47 GB  | 0037.3        | 0041.3                     | 11.3              | 28.0                                            |                |     | QL=6 ST=2 TYP=5 |
|     | 2695  | PENT | 46 C   | 0038.0        | 0044.7                     | 11.0              | 56.0                                            | 12.0           |     |                 |
|     | 500   | HIRA | 46 C   | 0038.6        | 0040.7                     | 14.0              | 450.0                                           | 90.0           |     | SR              |
|     | 208   | VORO | 41 F   | 0039.0        | 0044.0                     | 8.0               | 200.00                                          |                |     |                 |
|     | 2000  | TYKW | 45 C   | 0039.0        | 0044.4                     | 11.0              | 66.0                                            | 18.0           |     |                 |
|     | 9400  | TYKW | 45 C   | 0039.0        | 0044.4                     | 15.0              | 282.0                                           | 75.0           |     |                 |
|     | 1000  | TYKW | 45 C   | 0039.0        | 0044.6                     | 11.0              | 158.0                                           | 40.0           |     |                 |
|     | 15400 | LEAR | 47 GB  | 0039.0        | 0041.3                     | 9.8               | 110.0                                           |                |     | QL=6 ST=2 TYP=5 |
|     | 610   | LEAR | 4 S/F  | 0039.1        | 0041.3                     | 9.7               | 33.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 1415  | LEAR | 47 GB  | 0039.3        | 0040.8                     | 10.3              | 219.0                                           |                |     | QL=6 ST=2 TYP=5 |
|     | 17000 | NOBE | 7 C    | 0039.3        | 0044.4                     | 15.0              | 187.0                                           |                |     | R               |
|     | 35000 | NOBE | 7 C    | 0039.3        | 0045.0                     | 12.0              | 125.0                                           |                |     | O               |
|     | 410   | LEAR | 49 GB  | 0039.5        | 0041.1                     | 9.3               | 850.0                                           |                |     | QL=6 ST=2 TYP=6 |
|     | 200   | HIRA | 42 SER | 0039.7        | 0044.5                     | 9.0               | 1600.0                                          |                |     | WR              |
|     | 200   | HIRA |        | 0039.7        | 0047.3                     |                   | 620.0                                           |                |     | WR              |
|     | 80000 | NOBE | 7 C    | 0040.8        | 0045.5                     | 12.0              | 50.0                                            |                |     |                 |
|     | 100   | HIRA | 42 SER | 0041.0        | 0047.3                     | 7.0               | 410.0                                           |                |     | WR              |
|     | 2000  | TYKW | 29 PBI | 0050.0        |                            | 25.0              | 2.0                                             | 1.0            |     |                 |
|     | 1000  | TYKW | 29 PBI | 0050.0        |                            | 25.0              | 2.0                                             | 1.0            |     |                 |
|     | 9400  | TYKW | 29 PBI | 0054.0        |                            | 15.0              | 9.0                                             | 4.0            |     |                 |
|     | 9400  | TYKW | 20 GRF | 0114.0        | 0122.0                     | 35.0              | 10.0                                            | 3.0            |     |                 |
|     | 3750  | TYKW | 20 GRF | 0115.0        | 0125.0                     | 40.0              | 3.0                                             | 1.5            |     |                 |
|     | 2000  | TYKW | 21 GRF | 0120.0        | 0139.0                     | 90.0              | 2.0                                             | 1.0            |     |                 |
|     | 245   | LEAR | 4 S/F  | 0158.6        | 0200.1                     | 2.2               | 34.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 245   | LEAR | 47 GB  | 0202.5        | 0207.1                     | 5.5               | 100.0                                           |                |     | QL=6 ST=2 TYP=5 |
|     | 2000  | TYKW | 5 S    | 0209.3        | 0209.4                     | 0.7               | 6.0                                             | 1.5            |     |                 |
|     | 3750  | TYKW | 5 S    | 0214.0        | 0219.0                     | 25.0              | 3.0                                             | 1.5            |     |                 |
|     | 9400  | TYKW | 5 S    | 0220.0        | 0222.0                     | 12.0              | 4.0                                             | 1.5            |     |                 |
|     | 2000  | TYKW | 5 S    | 0220.5        | 0220.9                     | 1.0               | 22.0                                            | 3.0            |     |                 |
|     | 245   | LEAR | 8 S    | 0221.0        | 0221.1                     | .3                | 18.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 245   | LEAR | 8 S    | 0227.3        | 0227.3                     | .5                | 37.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 2000  | TYKW | 21 GRF | 0322.0        | 0334.0                     | 35.0              | 3.0                                             | 1.5            |     |                 |
|     | 3750  | TYKW | 21 GRF | 0325.0        | 0457.0                     | 310.0             | 11.0                                            | 5.0            |     |                 |
|     | 9400  | TYKW | 28 PRE | 0328.0        | 0334.0                     | 6.0               | 4.0                                             | 1.5            |     |                 |
|     | 3750  | TYKW | 45 C   | 0329.0        | 0335.7                     | 23.0              | 11.0                                            | 3.0            |     |                 |
|     | 500   | HIRA | 42 SER | 0329.6        | 0331.0                     | 13.0              | 40.0                                            |                |     | MR              |
|     | 9400  | TYKW | 45 C   | 0334.0        | 0335.6                     | 4.0               | 21.0                                            | 8.0            |     |                 |
|     | 2000  | TYKW | 5 S    | 0335.2        | 0335.7                     | 1.5               | 4.5                                             | 1.5            |     |                 |
|     | 8800  | LEAR | 8 S    | 0335.3        | 0335.6                     | 1.0               | 27.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 4995  | LEAR | 8 S    | 0335.5        | 0335.6                     | .3                | 20.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 9400  | TYKW | 29 PBI | 0338.0        |                            | 16.0              | 6.0                                             | 4.0            |     |                 |
|     | 2950  | GORK | 23 GRF | 0347.0E       | 0539.0                     | 359.00            | 3.3                                             |                |     |                 |
|     | 650   | GORK | 23 GRF | 0348.0E       | 1157.6                     | 492.00            | 16.0                                            |                |     |                 |
|     | 9400  | TYKW | 20 GRF | 0358.0        | 0402.0                     | 30.0              | 6.0                                             | 3.0            |     |                 |
|     | 410   | LEAR | 47 GB  | 0417.8        | 0418.0                     | .3                | 88.0                                            |                |     | QL=6 ST=2 TYP=5 |
|     | 410   | LEAR | 47 GB  | 0423.8        | 0423.8                     | .2                | 55.0                                            |                |     | QL=6 ST=2 TYP=5 |
|     | 9100  | GORK | 23 GRF | 0427.0        | 0536.8                     | 322.0             | 40.0                                            |                |     |                 |
|     | 2000  | TYKW | 21 GRF | 0430.0        | 0630.0                     | 285.00            | 12.0                                            | 6.00           |     |                 |
|     | 9400  | TYKW | 21 GRF | 0434.0        | 0453.0                     | 120.0             | 8.0                                             | 4.0            |     |                 |
|     | 2000  | TYKW | 5 S    | 0500.0        | 0504.0                     | 20.0              | 4.0                                             | 1.5            |     |                 |
|     | 3750  | TYKW | 21 GRF | 0500.0        | 0505.0                     | 55.0              | 6.0                                             | 3.0            |     |                 |
|     | 9400  | TYKW | 28 PRE | 0500.0        | 0518.0                     | 30.0              | 13.0                                            | 8.0            |     |                 |
|     | 500   | HIRA | 6 S    | 0506.1        | 0506.4                     | 1.0               | 36.0                                            | 10.0           |     | O               |
|     | 500   | HIRA | 42 SER | 0515.0        | 0540.6                     | 29.0              | 6.0                                             |                |     | WR              |
|     | 17000 | NOBE | 20 GRF | 0516.2        | 0539.1                     | 50.0              | 12.0                                            |                |     | R               |
|     | 9400  | TYKW | 45 C   | 0530.0        | 0538.8                     | 18.0              | 45.0                                            | 20.0           |     |                 |
|     | 2000  | TYKW | 20 GRF | 0530.0        | 0540.0                     | 35.0              | 3.0                                             | 1.5            |     |                 |

38  
Apr 84

# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

APRIL 1984

| Day | Freq  | Sta  | Type   | Start<br>(UT) | Time of<br>Maximum<br>(UT) | Duration<br>(Min) | Flux Density<br>Peak<br>(10 <sup>-22</sup> W/m <sup>2</sup> Hz) | Mean<br>(2 Hz) | Int | Remarks         |
|-----|-------|------|--------|---------------|----------------------------|-------------------|-----------------------------------------------------------------|----------------|-----|-----------------|
| 26  | 3750  | TYKW | 45 C   | 0531.0        | 0538.9                     | 20.0              | 13.0                                                            | 3.0            |     |                 |
|     | 9100  | GORK | 1 S    | 0531.1        | 0532.5                     | 2.7               | 16.0                                                            | 8.0            |     |                 |
|     | 8800  | ATHN | 20 GRF | 0531.1        | 0538.8                     | 11.9              | 55.0                                                            |                |     | QL=5 ST=2 TYP=2 |
|     | 8800  | LEAR | 8 S    | 0531.6        | 0532.6                     | 1.9               | 23.0                                                            |                |     | QL=6 ST=2 TYP=5 |
|     | 4995  | ATHN | 20 GRF | 0531.6        | 0539.0                     | 9.5               | 17.0                                                            |                |     | QL=5 ST=2 TYP=2 |
|     | 4995  | LEAR | 8 S    | 0532.3        | 0532.6                     | .7                | 18.0                                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 9100  | GORK | 46 C   | 0538.4        | 0538.8                     | 3.2               | 23.0                                                            |                |     |                 |
|     | 9100  | GORK |        | 0538.4        | 0539.9                     |                   | 21.0                                                            |                |     |                 |
|     | 9400  | TYKW | 29 PBI | 0548.0        |                            | 15.0              | 13.0                                                            | 6.0            |     |                 |
|     | 9100  | GORK | 1 S    | 0639.0        | 0639.5                     | 1.1               | 7.0                                                             | 3.0            |     |                 |
|     | 3750  | TYKW | 5 S    | 0642.0        | 0643.7                     | 5.0               | 4.0                                                             | 1.0            |     |                 |
|     | 5200  | BERN | 45 C   | 0642.5        | 0655.8                     | 50.00             | 88.0                                                            |                |     |                 |
|     | 3100  | BERN | 45 C   | 0642.5        | 0656.4                     | 50.00             | 55.0                                                            |                |     |                 |
|     | 1000  | TYKI | 45 C   | 0643.0        | 0643.6                     | 1.0               | 8.0                                                             | 2.5            |     |                 |
|     | 2000  | TYKI | 5 S    | 0643.0        | 0643.7                     | 2.0               | 5.0                                                             | 1.0            |     |                 |
|     | 3100  | CRIM | 1 S    | 0643.0        | 0644.0                     | 4.0               | 4.0                                                             | 1.0            |     |                 |
|     | 808   | ONDR | 42 SER | 0643.0        | 0700.0                     | 270.0             | 557.0                                                           |                |     |                 |
|     | 950   | GORK | 2 S/F  | 0643.1        | 0643.5                     | .9                | 7.0                                                             |                |     |                 |
|     | 650   | GORK | 2 S/F  | 0643.1        | 0643.7                     | 1.0               | 9.0                                                             | 4.5            |     |                 |
|     | 4995  | ATHN | 47 GB  | 0650.0        | 0650.6                     | 13.5              | 76.0                                                            |                |     | QL=6 ST=2 TYP=5 |
|     | 2695  | ATHN | 4 S/F  | 0650.0        | 0651.6                     | 13.8              | 44.0                                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 3000  | IZMI | 7 C    | 0650.0        | 0651.8                     | 8.0               | 75.0                                                            | 35.0           |     |                 |
|     | 1415  | ATHN | 47 GB  | 0650.0        | 0659.0                     | 14.3              | 160.0                                                           |                |     | QL=6 ST=2 TYP=5 |
|     | 8800  | ATHN | 47 GB  | 0650.1        | 0650.5                     | 13.4              | 92.0                                                            |                |     | QL=6 ST=2 TYP=5 |
|     | 9400  | TYKW | 45 C   | 0652.0        | 0655.8                     | 20.0              | 65.0                                                            | 17.0           |     |                 |
|     | 9100  | GORK | 1 S    | 0652.7        | 0653.3                     | 1.0               | 5.0                                                             | 2.5            |     |                 |
|     | 2000  | TYKW | 45 C   | 0654.0        | 0659.9                     | 10.0              | 60.0                                                            | 14.0           |     |                 |
|     | 8400  | BERN | 45 C   | 0654.0        | 0655.8                     | 40.00             | 82.0                                                            |                |     |                 |
|     | 11800 | BERN | 45 C   | 0654.0        | 0655.8                     | 40.00             | 48.0                                                            |                |     |                 |
|     | 200   | HIRA |        | 0654.8        | 0655.3                     |                   | 1370.0                                                          |                |     | NR              |
|     | 3750  | TYKW | 45 C   | 0655.0        | 0656.5                     | 6.0               | 55.0                                                            | 22.0           |     |                 |
|     | 2902  | YUNN | 45 C   | 0655.0        | 0656.6                     | 9.6               | 66.0                                                            |                |     |                 |
|     | 1000  | TYKW | 45 C   | 0655.0        | 0700.7                     | 9.0               | 85.0                                                            | 16.0           |     |                 |
|     | 536   | ONDR | 46 C   | 0655.0        |                            | 8.0               | 45.0                                                            |                |     |                 |
|     | 9500  | POTS | 29 PBI | 0655.0        | 0655.0                     | 80.0              | 57.0                                                            |                |     |                 |
|     | 100   | HIRA | 48 C   | 0655.0        | 0655.3                     | 5.7               | 10000.00                                                        | 1400.00        |     |                 |
|     | 204   | IZMI | 45 C   | 0655.0        | 0655.5                     | 7.0               | 2200.0                                                          | 2000.0         |     |                 |
|     | 500   | HIRA | 45 C   | 0655.0        | 0655.6                     | 2.4               | 65.0                                                            | 20.00          |     | NR              |
|     | 113   | POTS | 41 F   | 0655.0        | 0655.6                     | 6.0               | 3800.0                                                          | 600.0          |     | III             |
|     | 3100  | CRIM | 45 C   | 0655.0        | 0656.2                     | 9.0               | 58.0                                                            | 19.0           |     |                 |
|     | 3100  | CRIM |        | 0655.0        | 0659.1                     |                   | 39.0                                                            |                |     |                 |
|     | 1470  | POTS | 46 C   | 0655.0        | 0659.3                     | 7.5               | 107.0                                                           |                |     |                 |
|     | 234   | POTS | 42 SER | 0655.0        | 0700.0                     | 6.0               | 2500.0                                                          | 150.0          |     | III/V           |
|     | 200   | GORK | 41 F   | 0655.1        | 0655.5                     | 6.3               | 3500.0                                                          |                |     |                 |
|     | 2950  | GORK | 45 C   | 0655.1        | 0655.6                     | 5.6               | 30.0                                                            |                |     |                 |
|     | 100   | GORK | 41 F   | 0655.1        | 0655.6                     | 4.5               | 22000.0                                                         |                |     |                 |
|     | 950   | GORK | 46 C   | 0655.1        | 0655.7                     | 8.5               | 26.0                                                            |                |     |                 |
|     | 2950  | GORK |        | 0655.1        | 0656.5                     |                   | 39.0                                                            |                |     |                 |
|     | 100   | GORK |        | 0655.1        | 0659.3                     |                   | 12000.0                                                         |                |     |                 |
|     | 2950  | GORK |        | 0655.1        | 0659.3                     |                   | 24.0                                                            |                |     |                 |
|     | 950   | GORK |        | 0655.1        | 0659.7                     |                   | 75.0                                                            |                |     |                 |
|     | 200   | GORK |        | 0655.1        | 0700.0                     |                   | 2800.0                                                          |                |     |                 |
|     | 950   | GORK |        | 0655.1        | 0700.8                     |                   | 76.0                                                            |                |     |                 |
|     | 950   | GORK |        | 0655.1        | 0701.6                     |                   | 29.0                                                            |                |     |                 |
|     | 950   | GORK | 46 C   | 0655.1        | 0702.7                     |                   | 23.0                                                            |                |     |                 |
|     | 650   | GORK | 46 C   | 0655.2        | 0655.7                     | 14.0              | 63.0                                                            |                |     |                 |
|     | 9100  | GORK | 46 C   | 0655.2        | 0655.8                     | 5.5               | 69.0                                                            |                |     |                 |
|     | 9100  | GORK |        | 0655.2        | 0659.3                     |                   | 37.0                                                            |                |     |                 |
|     | 17000 | NOBE | 20 GRF | 0655.2        | 0700.0                     | 12.0              | 17.0                                                            |                |     | 0               |
|     | 1415  | LEAR | 47 GB  | 0655.3        | 0655.5                     | 5.7               | 130.0                                                           |                |     | QL=6 ST=2 TYP=5 |
|     | 245   | LEAR | 47 GB  | 0655.3        | 0655.8                     | 11.0              | 1699.0                                                          |                |     | QL=6 ST=3 TYP=5 |
|     | 4995  | LEAR | 47 GB  | 0655.3        | 0655.8                     | 5.5               | 77.0                                                            |                |     | QL=6 ST=2 TYP=5 |
|     | 610   | LEAR | 47 GB  | 0655.3        | 0655.8                     | 1.5               | 73.0                                                            |                |     | QL=6 ST=2 TYP=5 |
|     | 2695  | LEAR | 47 GB  | 0655.3        | 0656.8                     | 5.5               | 55.0                                                            |                |     | QL=6 ST=2 TYP=5 |
|     | 8800  | LEAR | 47 GB  | 0655.5        | 0655.8                     | 12.6              | 71.0                                                            |                |     | QL=6 ST=2 TYP=5 |
|     | 410   | LEAR | 47 GB  | 0655.6        | 0656.8                     | 1.5               | 92.0                                                            |                |     | QL=6 ST=2 TYP=5 |
|     | 15400 | LEAR | 47 GB  | 0655.8        | 0655.8                     | 12.3              | 30.0                                                            |                |     | QL=6 ST=2 TYP=5 |
|     | 500   | HIRA | 45 C   | 0658.0        | 0659.0                     | 4.0               | 185.0                                                           | 50.0           |     | SR              |
|     | 3750  | TYKW | 30 PBI | 0701.0        |                            | 70.0              | 8.0                                                             | 4.0            |     |                 |
|     | 1000  | TYKW | 30 PBI | 0704.0        |                            | 15.0              | 2.0                                                             | 1.0            |     |                 |
|     | 2000  | TYKW | 30 PBI | 0704.0        |                            | 100.0             | 4.0                                                             | 2.0            |     |                 |

# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

39  
Apr 84

APRIL 1984

| Day | Freq  | Sta  | Type   | Start<br>(UT) | Time of<br>Maximum<br>(UT) | Duration<br>(Min) | Flux Density    |                              | Int | Remarks         |
|-----|-------|------|--------|---------------|----------------------------|-------------------|-----------------|------------------------------|-----|-----------------|
|     |       |      |        |               |                            |                   | Peak<br>(10 -22 | Mean<br>W/m <sup>2</sup> Hz) |     |                 |
| 26  | 950   | GORK | 1 S    | 0705.3        | 0705.7                     | .6                | 5.0             |                              |     |                 |
|     | 1000  | TYKW | 45 C   | 0705.5        | 0705.8                     | 0.5               | 3.0             | 1.0                          |     |                 |
|     | 1000  | TYKW | 45 C   | 0708.0        | 0708.7                     | 1.5               | 19.0            | 6.0                          |     |                 |
|     | 950   | GORK | 4 S/F  | 0708.0        | 0708.6                     | 1.5               | 13.0            |                              |     |                 |
|     | 1470  | POTS | 4 S/F  | 0708.0        | 0708.8                     | 1.3               | 24.0            |                              |     |                 |
|     | 15400 | LEAR | 47 GB  | 0708.1        | 0708.1                     | 6.2               | 54.0            |                              |     | QL=6 ST=2 TYP=5 |
|     | 4995  | LEAR | 8 S    | 0708.8        | 0709.0                     | .3                | 13.0            |                              |     | QL=6 ST=2 TYP=3 |
|     | 1415  | LEAR | 8 S    | 0708.8        | 0709.0                     | .5                | 31.0            |                              |     | QL=6 ST=2 TYP=3 |
|     | 245   | LEAR | 47 GB  | 0718.6        | 0718.6                     | 1.0               | 62.0            |                              |     | QL=6 ST=2 TYP=5 |
|     | 3000  | IZMI | 5 S    | 0721.5        | 0723.5                     | 4.0               | 26.0            | 23.0                         |     |                 |
|     | 9400  | TYKW | 20 GRF | 0722.0        | 0737.0                     | 55.0              | 6.0             | 3.0                          |     |                 |
|     | 2000  | TYKW | 45 C   | 0723.5        | 0724.8                     | 4.5               | 27.0            | 6.0                          |     |                 |
|     | 2902  | YUNN | 5 S    | 0723.7        | 0725.7                     | 4.9               | 27.0            |                              |     |                 |
|     | 1470  | POTS | 4 S/F  | 0723.7        | 0725.8                     | 6.3               | 15.0            |                              |     |                 |
|     | 3750  | TYKW | 5 S    | 0724.0        | 0725.7                     | 3.0               | 17.0            | 7.0                          |     |                 |
|     | 1000  | TYKW | 45 C   | 0724.0        | 0725.9                     | 4.0               | 10.0            | 3.0                          |     |                 |
|     | 3000  | POTS | 3 S    | 0724.0        | 0726.0                     | 3.5               | 19.0            |                              |     |                 |
|     | 1415  | ATHN | 4 S/F  | 0724.1        | 0725.6                     | 3.5               | 16.0            |                              |     | QL=6 ST=2 TYP=3 |
|     | 2695  | ATHN | 4 S/F  | 0724.1        | 0725.6                     | 4.0               | 22.0            |                              |     | QL=6 ST=2 TYP=3 |
|     | 3100  | CRIM | 1 S    | 0724.1        | 0725.8                     | 3.0               | 19.0            | 6.0                          |     |                 |
|     | 2950  | GORK | 3 S    | 0724.4        | 0725.7                     | 2.5               | 11.7            | 5.0                          |     |                 |
|     | 950   | GORK | 4 S/F  | 0724.5        | 0725.8                     | 2.8               | 8.0             |                              |     |                 |
|     | 2695  | LEAR | 8 S    | 0724.8        | 0725.6                     | 1.5               | 26.0            |                              |     | QL=6 ST=2 TYP=3 |
|     | 1415  | LEAR | 8 S    | 0725.6        | 0725.8                     | .4                | 19.0            |                              |     | QL=6 ST=2 TYP=3 |
|     | 245   | LEAR | 47 GB  | 0726.6        | 0727.6                     | 1.4               | 93.0            |                              |     | QL=6 ST=2 TYP=5 |
|     | 3750  | TYKW | 30 FBI | 0727.0        |                            | 40.0              | 4.0             | 2.0                          |     |                 |
|     | 2000  | TYKW | 29 FBI | 0728.0        |                            | 60.0              | 3.0             | 1.5                          |     |                 |
|     | 15400 | LEAR | 8 S    | 0728.3        | 0728.3                     | .3                | 20.0            |                              |     | QL=6 ST=2 TYP=3 |
|     | 3750  | TYKW | 20 GRF | 0730.0        | 0737.0                     | 30.0              | 3.0             | 1.5                          |     |                 |
|     | 200   | GORK | 41 F   | 0730.4        | 0730.8                     | 7.5               | 390.0           |                              |     |                 |
|     | 200   | GORK |        | 0730.4        | 0736.3                     |                   | 540.0           |                              |     |                 |
|     | 113   | POTS | 4 S/F  | 0852.0        | 0904.1                     | 15.0              | 28000.0         | 300.0                        |     | III/V           |
|     | 650   | GORK |        | 0852.5        | 0858.1                     | 16.5              | 100.0           |                              |     |                 |
|     | 650   | GORK | 46 C   | 0852.5        | 0901.5                     |                   | 314.0           |                              |     |                 |
|     | 650   | GORK |        | 0852.5        | 0906.0                     |                   | 330.0           |                              |     |                 |
|     | 19600 | BERN | 46 C   | 0853.0        | 0857.5                     | 24.0              | 189.0           |                              |     |                 |
|     | 430   | KRAK | 45 C   | 0853.0        | 0857.5                     | 18.5              | 150.0           | 58.0                         |     |                 |
|     | 810   | KRAK | 45 C   | 0853.0        | 0857.5                     | 15.5              | 150.0           | 49.0                         |     |                 |
|     | 5200  | BERN | 46 C   | 0853.0        | 0857.5                     | 24.0              | 250.0           |                              |     |                 |
|     | 8400  | BERN | 46 C   | 0853.0        | 0857.6                     | 24.0              | 332.0           |                              |     |                 |
|     | 204   | IZMI | 47 GB  | 0853.0        | 0902.0                     | 15.0              | 12000.0         | 6000.0                       |     |                 |
|     | 11800 | BERN | 46 C   | 0853.0        | 0903.8                     | 24.0              | 341.0           |                              |     |                 |
|     | 3100  | BERN | 4 S/F  | 0853.0        | 0905.5                     | 24.0              | 142.0           |                              |     |                 |
|     | 810   | KRAK |        | 0853.0        | 0905.9                     |                   | 210.0           |                              |     |                 |
|     | 50000 | BERN | 46 C   | 0853.0        | 0918.5                     | 25.50             | 157.0           |                              |     |                 |
|     | 200   | HIRA |        | 0853.3        | 0857.7                     |                   | 740.0           |                              |     | SR              |
|     | 200   | HIRA | 48 C   | 0853.3        | 0903.7                     | 17.3              | 14000.00        | 1800.00                      |     | SR, SUNSET      |
|     | 9500  | POTS | 46 C   | 0853.5        | 0857.5                     | 32.0              | 280.0           |                              |     |                 |
|     | 4995  | ATHN | 47 GB  | 0853.5        | 0857.6                     | 17.1              | 330.0           |                              |     | QL=6 ST=2 TYP=5 |
|     | 950   | GORK | 46 C   | 0853.5        | 0857.8                     | 19.4              | 96.0            |                              |     |                 |
|     | 950   | GORK |        | 0853.5        | 0859.8                     |                   | 43.0            |                              |     |                 |
|     | 950   | GORK |        | 0853.5        | 0905.8                     |                   | 176.0           |                              |     |                 |
|     | 500   | HIRA | 45 C   | 0853.60       | 0857.40                    | 15.00             | 100.00          | 30.00                        |     | SR, SUNSET      |
|     | 200   | GORK | 41 F   | 0853.8        | 0854.5                     | 4.5               | 460.0           |                              |     |                 |
|     | 200   | GORK |        | 0853.8        | 0857.6                     |                   | 800.0           |                              |     |                 |
|     | 234   | POTS | 47 GB  | 0853.8        | 0903.5                     | 14.0              | 36000.0         | 80.0                         |     | III/V           |
|     | 808   | ONDR | 47 GB  | 0854.0        |                            | 16.0              |                 | 351.0                        |     |                 |
|     | 1470  | POTS | 46 C   | 0854.0        | 0905.9                     | 18.0              | 170.0           |                              |     |                 |
|     | 808   | ONDR |        | 0854.0        | 0957.8                     |                   | 431.0           |                              |     |                 |
|     | 808   | ONDR |        | 0854.0        | 1006.0                     |                   | 675.0           |                              |     |                 |
|     | 1415  | ATHN | 47 GB  | 0854.1        | 0905.5                     | 16.5              | 280.0           |                              |     | QL=5 ST=3 TYP=5 |
|     | 3750  | TYKW | 45 C   | 0855.0        | 0857.7                     | 12.0              | 125.0           | 30.00                        |     |                 |
|     | 2000  | TYKW | 45 C   | 0855.0        | 0904.1                     | 17.00             | 200.0           | 40.00                        |     |                 |
|     | 3000  | POTS | 46 C   | 0855.0        | 0905.5                     | 18.0              | 130.0           |                              |     |                 |
|     | 9100  | GORK | 46 C   | 0855.4        | 0857.6                     | 13.3              | 300.0           |                              |     |                 |
|     | 9100  | GORK |        | 0855.4        | 0903.8                     |                   | 280.0           |                              |     |                 |
|     | 9100  | GORK |        | 0855.4        | 0905.6                     |                   | 300.0           |                              |     |                 |
|     | 8800  | ATHN | 47 GB  | 0855.6        | 0857.5                     | 14.5              | 300.0           |                              |     | QL=6 ST=2 TYP=5 |
|     | 3100  | CRIM | 45 C   | 0856.0        | 0857.5                     | 12.0              | 93.0            |                              |     |                 |
|     | 2695  | ATHN | 47 GB  | 0856.0        | 0905.3                     | 15.1              | 160.0           |                              |     | QL=5 ST=2 TYP=5 |
|     | 3100  | CRIM |        | 0856.0        | 0905.5                     |                   | 157.0           | 52.0                         |     |                 |



40  
Apr 84

# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

APRIL 1984

| Day | Freq  | Sta  | Type   | Start<br>(UT) | Time of<br>Maximum<br>(UT) | Duration<br>(Min) | Flux Density<br>Peak<br>(10 <sup>-22</sup> W/m <sup>2</sup> Hz) | Mean<br>(10 <sup>-22</sup> W/m <sup>2</sup> Hz) | Int | Remarks         |
|-----|-------|------|--------|---------------|----------------------------|-------------------|-----------------------------------------------------------------|-------------------------------------------------|-----|-----------------|
| 26  | 3000  | IZMI | C      | 0856.0        | 0905.5                     | 12.0              | 140.0                                                           | 70.0                                            |     |                 |
|     | 2950  | GORK | S      | 0856.3        | 0857.6                     | 3.8               | 58.0                                                            | 22.0                                            |     |                 |
|     | 100   | HIRA | 42 SER | 0856.7        |                            | 9.6               |                                                                 |                                                 |     | , SUNSET        |
|     | 100   | GORK | 41 F   | 0857.1        | 0857.2                     | 9.8               | 3700.0                                                          |                                                 |     |                 |
|     | 100   | GORK |        | 0857.1        | 0904.4                     |                   | 13300.0                                                         |                                                 |     |                 |
|     | 100   | GORK |        | 0857.1        | 0905.9                     |                   | 17500.0                                                         |                                                 |     |                 |
|     | 29    | UPIC | 48 C   | 0857.2        | 0905.5                     | 10.7              |                                                                 |                                                 |     |                 |
|     | 536   | ONDR | 46 C   | 0858.0        | 0906.5                     | 18.0              | 438.0                                                           |                                                 |     |                 |
|     | 200   | GORK | 46 C   | 0901.2        | 0903.6                     | 6.4               | 13800.0                                                         |                                                 |     |                 |
|     | 200   | GORK |        | 0901.2        | 0905.6                     |                   | 14800.0                                                         |                                                 |     |                 |
|     | 2950  | GORK | 46 C   | 0902.3        | 0904.1                     | 5.0               | 92.0                                                            |                                                 |     |                 |
|     | 2950  | GORK |        | 0902.3        | 0905.6                     |                   | 110.0                                                           |                                                 |     |                 |
|     | 9100  | GORK | 1 S    | 0915.3        | 0915.8                     | 1.0               | 7.0                                                             | 3.0                                             |     |                 |
|     | 9500  | GORK | 20 GRF | 0946.0        | 1136.0                     | 111.0D            | 4.0                                                             |                                                 |     |                 |
|     | 430   | KRAK | 8 S    | 0957.4        | 0957.5                     | .6                | 400.0D                                                          |                                                 |     |                 |
|     | 650   | GORK | 4 S/F  | 1042.1        | 1042.7                     | .9                | 59.0                                                            | 18.0                                            |     |                 |
|     | 610   | SGMR | 47 GB  | 1058.6        | 1059.5                     | 20.9              | 36.0                                                            |                                                 |     | QL=6 ST=3 TYP=5 |
|     | 8800  | SGMR | 47 GB  | 1102.6        | 1102.8                     | 6.7               | 27.0                                                            |                                                 |     | QL=3 ST=3 TYP=5 |
|     | 4995  | SGMR | 8 S    | 1102.8        | 1102.8                     | .3                | 15.0                                                            |                                                 |     | QL=3 ST=3 TYP=5 |
|     | 15400 | SGMR | 4 S/F  | 1102.8        | 1103.1                     | 16.7              | 20.0                                                            |                                                 |     | QL=3 ST=3 TYP=5 |
|     | 2600  | OTTA | 21 GRF | 1110.0        | 1125.0                     | 85.0              | 8.4                                                             | 3.8                                             |     |                 |
|     | 245   | SGMR | 4 S/F  | 1115.8        | 1117.8                     | 2.3               | 19.0                                                            |                                                 |     | QL=6 ST=3 TYP=3 |
|     | 2600  | OTTA | 20 GRF | 1215.0        | 1218.0                     | 17.0              | 8.8                                                             | 3.0                                             |     |                 |
|     | 3000  | POTS | 20 GRF | 1215.0        | 1218.0                     | 12.0              | 8.0                                                             |                                                 |     |                 |
|     | 8400  | BERN | 21 GRF | 1215.0U       | 1255.2                     | 170.0U            | 66.0                                                            |                                                 |     |                 |
|     | 11800 | BERN | 21 GRF | 1215.0U       | 1256.3                     | 170.0U            | 46.0                                                            |                                                 |     |                 |
|     | 5200  | BERN | 21 GRF | 1215.0U       | 1258.0U                    | 170.0U            | 70.0D                                                           |                                                 |     |                 |
|     | 3100  | BERN | 21 GRF | 1215.0U       | 1258.0U                    | 170.0U            | 50.0D                                                           |                                                 |     |                 |
|     | 19600 | BERN | 21 GRF | 1215.0U       | 1259.4                     | 170.0U            | 34.0                                                            |                                                 |     |                 |
|     | 1470  | POTS | 20 GRF | 1216.0        | 1218.0                     | 11.0              | 2.0                                                             |                                                 |     |                 |
|     | 1470  | POTS | 21 GRF | 1241.0        | 1243.8                     | 44.0              | 11.0                                                            |                                                 |     |                 |
|     | 2800  | OTTA | 46 C   | 1241.0        | 1255.0                     | 22.0              | 95.0                                                            | 31.2                                            |     |                 |
|     | 1415  | ATHN | 4 S/F  | 1241.6        | 1244.0                     | 3.9               | 10.0                                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 2635  | ATHN | 4 S/F  | 1241.6        | 1244.0                     | 4.9               | 30.0                                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 4395  | ATHN | 47 GB  | 1241.6        | 1244.3                     | 4.5               | 79.0                                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 2695  | SGMR | 4 S/F  | 1242.1        | 1243.6                     | 9.2               | 34.0                                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 4995  | SGMR | 47 GB  | 1242.3        | 1243.8                     | 4.8               | 66.0                                                            |                                                 |     | QL=6 ST=2 TYP=5 |
|     | 9500  | POTS | 21 GRF | 1242.5        | 1255.0                     | 118.0             | 49.0                                                            |                                                 |     |                 |
|     | 8800  | ATHN | 4 S/F  | 1243.0        | 1244.3                     | 2.6               | 38.0                                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 1415  | SGMR | 8 S    | 1243.1        | 1243.6                     | .9                | 18.0                                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 8800  | SGMR | 4 S/F  | 1243.1        | 1244.3                     | 2.5               | 32.0                                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 3000  | POTS | 3 S    | 1253.6        | 1255.0                     | 4.4               | 64.0U                                                           |                                                 |     |                 |
|     | 4995  | ATHN | 47 GB  | 1253.6        | 1255.0                     | 4.5               | 63.0                                                            |                                                 |     | QL=6 ST=2 TYP=5 |
|     | 2695  | ATHN | 47 GB  | 1253.6        | 1255.1                     | 4.5               | 52.0                                                            |                                                 |     | QL=6 ST=2 TYP=5 |
|     | 1415  | ATHN | 4 S/F  | 1253.6        | 1255.5                     | 4.0               | 24.0                                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 1470  | POTS | 3 S    | 1253.8        | 1255.4                     | 4.2               | 29.0                                                            |                                                 |     |                 |
|     | 8800  | SGMR | 47 GB  | 1254.5        | 1255.0                     | 10.5              | 74.0                                                            |                                                 |     | QL=6 ST=2 TYP=5 |
|     | 4995  | SGMR | 47 GB  | 1254.5        | 1255.0                     | 3.1               | 67.0                                                            |                                                 |     | QL=6 ST=2 TYP=5 |
|     | 1415  | SGMR | 4 S/F  | 1254.5        | 1255.1                     | 2.8               | 36.0                                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 2695  | SGMR | 47 GB  | 1254.5        | 1255.1                     | 2.8               | 77.0                                                            |                                                 |     | QL=6 ST=2 TYP=5 |
|     | 8800  | ATHN | 8 S    | 1254.5        | 1255.3                     | 1.6               | 21.0                                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 15400 | SGMR | 4 S/F  | 1255.1        | 1256.1                     | 8.0               | 30.0                                                            |                                                 |     | QL=6 ST=2 TYP=3 |
|     | 2800  | OTTA | 29 PBI | 1303.0        | 1303.0                     | 125.0             | 33.0                                                            | 13.0                                            |     |                 |
|     | 234   | POTS | 4 S/F  | 1310.2        | 1310.3                     | .6                | 220.0                                                           | 20.0                                            |     |                 |
|     | 234   | POTS | 4 S/F  | 1326.0        | 1326.1                     | .2                | 385.0                                                           | 70.0                                            |     |                 |
|     | 2800  | OTTA | 20 GRF | 1535.0        | 1538.0                     | 30.0              | 2.0                                                             | 1.0                                             |     |                 |
|     | 3100  | BERN | 45 C   | 1721.0        | 1722.8                     | 9.0               | 102.0                                                           |                                                 |     |                 |
|     | 5200  | BERN | 45 C   | 1721.0        | 1726.9                     | 9.0               | 284.0                                                           |                                                 |     |                 |
|     | 2800  | OTTA | 46F C  | 1721.5        | 1722.8                     | 8.5               | 114.0                                                           | 39.2                                            |     |                 |
|     | 410   | SGMR | 49 GB  | 1721.6        | 1722.8                     | 7.4               | 1000.0                                                          |                                                 |     | QL=6 ST=2 TYP=6 |
|     | 245   | SGMR | 49 GB  | 1721.8        | 1722.0                     | 6.3               | 1500.0                                                          |                                                 |     | QL=6 ST=2 TYP=6 |
|     | 610   | SGMR | 49 GB  | 1721.8        | 1722.1                     | 7.0               | 230.0                                                           |                                                 |     | QL=6 ST=2 TYP=6 |
|     | 1415  | SGMR | 47 GB  | 1721.8        | 1722.8                     | 7.2               | 180.0                                                           |                                                 |     | QL=6 ST=2 TYP=5 |
|     | 2695  | SGMR | 47 GB  | 1721.8        | 1722.8                     | 7.3               | 130.0                                                           |                                                 |     | QL=6 ST=2 TYP=5 |
|     | 4995  | SGMR | 47 GB  | 1721.8        | 1722.8                     | 7.3               | 160.0                                                           |                                                 |     | QL=6 ST=2 TYP=5 |
|     | 8800  | SGMR | 47 GB  | 1722.0        | 1722.8                     | 8.5               | 130.0                                                           |                                                 |     | QL=6 ST=2 TYP=5 |
|     | 11800 | BERN | 45 C   | 1722.0        | 1722.9                     | 9.0               | 92.0                                                            |                                                 |     |                 |
|     | 8400  | BERN | 45 C   | 1722.0        | 1722.9                     | 9.0               | 145.0                                                           |                                                 |     |                 |
|     | 15400 | SGMR | 47 GB  | 1722.3        | 1722.8                     | 1.8               | 78.0                                                            |                                                 |     | QL=6 ST=2 TYP=5 |
|     | 2800  | OTTA | 29 PBI | 1730.0        | 1730.0                     | 20.0              | 8.2                                                             | 2.8                                             |     |                 |
|     | 2800  | OTTA | 8 S    | 1810.4        | 1810.4                     | .1                | 5.0                                                             |                                                 |     |                 |

# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

41  
Apr 84

APRIL 1984

| Day | Freq | Sta  | Type   | Start<br>(UT) | Time of<br>Maximum<br>(UT) | Duration<br>(Min) | Flux Density                                    |                | Int | Remarks         |
|-----|------|------|--------|---------------|----------------------------|-------------------|-------------------------------------------------|----------------|-----|-----------------|
|     |      |      |        |               |                            |                   | Peak<br>(10 <sup>-22</sup> W/m <sup>2</sup> Hz) | Mean<br>(2 Hz) |     |                 |
| 26  | 2800 | OTTA | 3 S    | 1845.5        | 1845.9                     | 1.3               | 2.2                                             | 4.8            |     |                 |
|     | 610  | SGMR | 47 GB  | 1945.6        | 1945.8                     | .4                | 69.0                                            |                |     | QL=6 ST=2 TYP=5 |
|     | 610  | SGMR | 47 GB  | 1948.8        | 1949.0                     | .5                | 71.0                                            |                |     | QL=6 ST=2 TYP=5 |
|     | 410  | SGMR | 8 S    | 2053.1        | 2053.3                     | .5                | 18.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 610  | SGMR | 8 S    | 2053.1        | 2053.3                     | .5                | 22.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 410  | SGMR | 8 S    | 2103.5        | 2103.8                     | 1.0               | 26.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 610  | PALE | 47 GB  | 2103.6        | 2103.6                     | .5                | 200.0                                           |                |     | QL=6 ST=2 TYP=5 |
|     | 410  | PALE | 8 S    | 2103.6        | 2103.8                     | .4                | 25.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 610  | SGMR | 47 GB  | 2103.6        | 2103.8                     | .5                | 150.0                                           |                |     | QL=6 ST=2 TYP=5 |
|     | 1000 | TYKW | 5 S    | 2150.5        | 2150.7                     | 0.5               | 14.0                                            | 3.0            |     |                 |
|     | 1000 | TYKW | 45 C   | 2152.0        | 2152.5                     | 1.5               | 13.0                                            | 2.0            |     |                 |
|     | 1000 | TYKW | 45 C   | 2154.7        | 2155.1                     | 1.0               | 21.0                                            | 5.0            |     |                 |
|     | 2000 | TYKW | 21 GRF | 2200.0        | 2230.0                     | 120.0             | 2.0                                             | 1.0            |     |                 |
|     | 3750 | TYKW | 21 GRF | 2200.0        | 2240.0                     | 170.0             | 4.0                                             | 2.0            |     |                 |
|     | 1000 | TYKW | 8 S    | 2207.0        | 2207.1                     | 0.3               | 5.0                                             | 1.5            |     |                 |
|     | 1000 | TYKW | 5 S    | 2208.1        | 2208.2                     | 0.5               | 5.0                                             | 1.0            |     |                 |
|     | 1000 | TYKW | 45 C   | 2217.9        | 2218.0                     | 0.5               | 6.0                                             | 1.0            |     |                 |
|     | 2000 | TYKW | 5 S    | 2218.0        | 2218.2                     | 0.5               | 4.0                                             | 1.0            |     |                 |
|     | 2695 | PENT | 21 GRF | 2218.0        | 2223.0                     | 40.0              | 3.2                                             | 1.6            |     |                 |
|     | 1000 | TYKW | 5 S    | 2236.0        | 2236.2                     | 0.5               | 3.5                                             | 1.0            |     |                 |
|     | 200  | HIRA | 46 C   | 2242.7        | 2245.5                     | 3.8               | 90.0                                            | 32.0           |     | MR              |
|     | 500  | HIRA | 42 SER | 2244.7        | 2250.0                     | 5.6               | 205.0                                           |                |     | SR              |
|     | 1000 | TYKW | 5 S    | 2245.0        | 2245.1                     | 0.5               | 5.0                                             | 1.0            |     |                 |
|     | 100  | HIRA | 42 SER | 2249.6        | 2251.7                     | 2.7               | 1100.0                                          |                |     | MR              |
|     | 2695 | PENT | 8 S    | 2250.0        | 2250.3                     | .8                | 3.2                                             | 1.6            |     |                 |
|     | 3750 | TYKW | 5 S    | 2250.0        | 2250.3                     | 1.0               | 4.0                                             | 1.0            |     |                 |
|     | 1000 | TYKW | 45 C   | 2250.0        | 2250.4                     | 1.0               | 32.0                                            | 5.0            |     |                 |
|     | 2000 | TYKW | 5 S    | 2250.0        | 2250.4                     | 1.0               | 4.0                                             | 1.0            |     |                 |
|     | 3750 | TYKW | 5 S    | 2302.0        | 2304.0                     | 10.0              | 2.0                                             | 1.0            |     |                 |
|     | 3750 | TYKW | 45 C   | 2326.0        | 2330.7                     | 11.0              | 6.0                                             | 3.0            |     |                 |
|     | 3750 | TYKW | 30 PBI | 2337.0        |                            | 70.0              | 3.0                                             | 1.5            |     |                 |
|     | 9400 | TYKW | 5 S    | 2338.0        | 2339.0                     | 10.0              | 4.0                                             | 1.5            |     |                 |
|     | 410  | LEAR | 8 S    | 2358.1        | 2358.6                     | 1.5               | 30.0                                            |                |     | QL=6 ST=2 TYP=3 |
| 27  | 200  | GORK | 44 NS  | 0335.0E       |                            | 507.0D            |                                                 | 20.0           |     |                 |
|     | 100  | GORK | 44 NS  | 0335.0E       |                            | 505.0D            |                                                 | 180.0          |     |                 |
|     | 29   | UPIC | 43 NS  | 0530.0        |                            | 593.7             |                                                 |                |     |                 |
|     | 33   | UPIC | 43 NS  | 0531.5        |                            | 592.1             |                                                 |                |     |                 |
|     | 536  | ONDR | 44 NS  | 0557.0E       |                            | 203.0D            | 52.0                                            |                |     |                 |
|     | 204  | IZMI | 44 NS  | 0600.0E       |                            | 360.0D            | 40.0                                            |                |     |                 |
|     | 127  | TORN | 44 NS  | 0700.0E       |                            | 480.0D            |                                                 | 80.0           |     | V=1             |
|     | 260  | ONDR | 44 NS  | 0710.0E       |                            | 433.0D            | 38.0                                            |                |     |                 |
|     | 245  | SGMR | 43 NS  | 1005.0        | 2010.0                     | 792.0D            | 200.0                                           |                |     | QL=6 ST=2 TYP=1 |
|     | 536  | ONDR | 43 NS  | 1225.0        |                            | 120.0D            | 15.0                                            |                |     |                 |
|     | 410  | SGMR | 43 NS  | 1242.8        | 2138.1                     | 654.2D            | 139.0                                           |                |     | QL=6 ST=2 TYP=1 |
|     | 410  | PALE | 43 NS  | 1643.0        | 0055.5                     | 677.0D            | 40.0                                            |                |     | QL=6 ST=2 TYP=1 |
|     | 245  | PALE | 43 NS  | 1643.0        | 2338.1                     | 677.0D            | 310.0                                           |                |     | QL=6 ST=2 TYP=1 |
|     | 100  | HIRA | 44 NS  | 1945.0E       | 0121.0                     | 810.0D            | 320.0                                           | 200.0          |     | SR              |
|     | 200  | HIRA | 44 NS  | 1945.0E       | 0124.0                     | 810.0D            | 90.0                                            | 30.0           |     | SR              |
|     | 208  | VORO | 44 NS  | 2200.0E       |                            | 360.0D            |                                                 | 44.0           |     |                 |
|     | 410  | LEAR | 43 NS  | 2258.0        | 0243.8                     | 353.0             | 15.0                                            |                |     | QL=6 ST=2 TYP=1 |
|     | 245  | LEAR | 43 NS  | 2258.0        | 0536.8                     | 646.0D            | 260.0                                           |                |     | QL=6 ST=2 TYP=1 |
|     | 3750 | TYKW | 45 C   | 0010.0        | 0014.8                     | 15.0              | 10.0                                            | 4.0            |     |                 |
|     | 2695 | PENT | 20 GRF | 0010.0        | 0020.0                     | 30.0              | 3.2                                             | 1.6            |     |                 |
|     | 9400 | TYKW | 5 S    | 0020.0        | 0028.0                     | 20.0              | 5.0                                             | 2.0            |     |                 |
|     | 2000 | TYKW | 32 ABS | 0020.0        | 0050.0                     | 60.0              | -2.0                                            | -1.0           |     |                 |
|     | 3750 | TYKW | 29 PBI | 0025.0        |                            | 20.0              | 3.0                                             | 1.5            |     |                 |
|     | 1000 | TYKW | 45 C   | 0025.0        | 0026.3                     | 2.5               | 5.0                                             | 0.7            |     |                 |
|     | 208  | VORO | 1 S    | 0025.0        | 0027.0                     | 6.0               | 145.0                                           |                |     |                 |
|     | 410  | PALE | 8 S    | 0026.6        | 0026.6                     | .2                | 30.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 1000 | TYKW | 45 C   | 0029.5        | 0029.8                     | 0.5               | 15.0                                            | 3.0            |     |                 |
|     | 1000 | TYKW | 45 C   | 0047.0        | 0048.5                     | 3.0               | 2.5                                             | 0.7            |     |                 |
|     | 3750 | TYKW | 5 S    | 0057.0        | 0058.1                     | 3.0               | 3.0                                             | 1.0            |     |                 |
|     | 9400 | TYKW | 21 GRF | 0100.0        | 0132.0                     | 80.0              | 8.0                                             | 3.0            |     |                 |
|     | 9400 | TYKW | 45 C   | 0102.0        | 0103.0                     | 5.0               | 9.0                                             | 2.0            |     |                 |
|     | 3750 | TYKW | 45 C   | 0106.0        | 0134.0                     | 50.0              | 14.0                                            | 7.0            |     |                 |
|     | 2695 | PENT | 20 GRF | 0110.0        | 0135.0                     | 40.0D             | 7.2                                             |                |     |                 |
|     | 1000 | TYKW | 5 S    | 0113.2        | 0113.4                     | 0.5               | 4.0                                             | 1.0            |     |                 |
|     | 200  | HIRA | 42 SER | 0115.2        | 0119.6                     | 5.3               | 170.0                                           |                |     | SR              |
|     | 500  | HIRA | 6 S    | 0115.6        | 0116.0                     | 1.0               | 19.0                                            | 8.0            |     | MR              |
|     | 410  | LEAR | 8 S    | 0115.6        | 0116.1                     | 1.4               | 20.0                                            |                |     | QL=6 ST=2 TYP=3 |

42  
Apr 84

# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

APRIL 1984

| Day | Freq  | Sta  | Type   | Start<br>(UT) | Time of<br>Maximum<br>(UT) | Duration<br>(Min) | Flux Density                                    |                | Int | Remarks         |
|-----|-------|------|--------|---------------|----------------------------|-------------------|-------------------------------------------------|----------------|-----|-----------------|
|     |       |      |        |               |                            |                   | Peak<br>(10 <sup>-22</sup> W/m <sup>2</sup> Hz) | Mean<br>(2 Hz) |     |                 |
| 27  | 610   | LEAR | 47 GB  | 0115.8        | 0116.1                     | 1.2               | 80.0                                            |                |     | QL=6 ST=2 TYP=5 |
|     | 610   | PALE | 47 GB  | 0115.8        | 0116.1                     | .7                | 100.0                                           |                |     | QL=6 ST=2 TYP=5 |
|     | 410   | PALE | 8 S    | 0115.8        | 0116.1                     | .7                | 23.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 245   | LEAR | 8 S    | 0115.8        | 0116.1                     | 1.3               | 3.0                                             |                |     | QL=6 ST=2 TYP=3 |
|     | 1000  | TYKW | 45 C   | 0115.9        | 0116.3                     | 1.0               | 42.0                                            | 4.0            |     |                 |
|     | 2000  | TYKW | 20 GRF | 0125.0        | 0135.0                     | 60.0              | 2.0                                             | 1.0            |     |                 |
|     | 245   | LEAR | 4 S/F  | 0132.1        | 0133.8                     | 3.4               | 24.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 500   | HIRA | 6 S    | 0132.8        | 0133.4                     | 1.0               | 30.0                                            | 15.0           |     | MR              |
|     | 410   | LEAR | 8 S    | 0133.0        | 0134.0                     | 1.5               | 10.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 610   | PALE | 47 GB  | 0133.1        | 0133.6                     | .5                | 64.0                                            |                |     | QL=6 ST=2 TYP=5 |
|     | 1000  | TYKW | 45 C   | 0133.2        | 0133.9                     | 1.0               | 46.0                                            | 5.0            |     |                 |
|     | 610   | LEAR | 47 GB  | 0133.6        | 0133.6                     | 1.2               | 70.0                                            |                |     | QL=6 ST=2 TYP=5 |
|     | 3750  | TYKW | 29 FBI | 0156.0        |                            | 50.0              | 4.0                                             | 2.0            |     |                 |
|     | 2000  | TYKW | 32 ABS | 0300.0        | 0330.0                     | 85.0              | -2.0                                            | -1.0           |     |                 |
|     | 3750  | TYKW | 5 S    | 0310.0        | 0311.3                     | 3.0               | 3.0                                             | 1.0            |     |                 |
|     | 9400  | TYKW | 32 ABS | 0310.0        | 0325.0                     | 50.0              | -6.0                                            | -3.0           |     |                 |
|     | 3750  | TYKW | 31 ABS | 0313.0        | 0330.0                     | 65.0              | -4.0                                            | -2.0           |     |                 |
|     | 3750  | TYKW | 5 S    | 0408.0        | 0410.0                     | 5.0               | 3.0                                             | 1.0            |     |                 |
|     | 9100  | GORK | 20 GRF | 0415.0        | 0424.0                     | 55.0              | 7.0                                             |                |     |                 |
|     | 9400  | TYKW | 45 C   | 0418.0        | 0421.0                     | 10.0              | 9.0                                             | 4.0            |     |                 |
|     | 2950  | GORK | 1 S    | 0421.8        | 0426.0                     | 5.3               | 6.7                                             | 2.5            |     |                 |
|     | 2840  | PEKG | 1 S    | 0425.6        | 0426.1                     | 1.4               | 9.0                                             | 4.5            |     |                 |
|     | 3750  | TYKW | 5 S    | 0425.7        | 0426.1                     | 1.5               | 10.0                                            | 3.0            |     |                 |
|     | 2000  | TYKW | 5 S    | 0425.8        | 0426.1                     | 1.5               | 3.0                                             | 1.0            |     |                 |
|     | 9400  | TYKW | 29 FBI | 0428.0        |                            | 10.0              | 3.0                                             | 1.5            |     |                 |
|     | 3750  | TYKW | 45 C   | 0442.0        | 0451.2                     | 11.0              | 2.0                                             | 1.0            |     |                 |
|     | 3750  | TYKW | 5 S    | 0458.0        | 0459.4                     | 5.0               | 2.0                                             | 0.7            |     |                 |
|     | 610   | LEAR | 47 GB  | 0502.3        | 0502.6                     | .7                | 68.0                                            |                |     | QL=6 ST=2 TYP=5 |
|     | 1000  | TYKW | 5 S    | 0502.4        | 0502.6                     | 0.6               | 1.0                                             | 0.3            |     |                 |
|     | 9100  | GORK | 21 GRF | 0519.6        | 0543.3                     | 39.00             | 18.0                                            |                |     |                 |
|     | 650   | GORK | 20 GRF | 0526.5        | 0536.5                     | 17.9              | 3.0                                             |                |     |                 |
|     | 3750  | TYKW | 28 FRE | 0530.0        | 0534.0                     | 4.0               | 2.0                                             | 1.0            |     |                 |
|     | 650   | GORK | 4 S/F  | 0531.5        | 0531.6                     | .3                | 40.0                                            |                |     |                 |
|     | 610   | LEAR | 47 GB  | 0531.6        | 0531.8                     | .5                | 57.0                                            |                |     | QL=6 ST=2 TYP=5 |
|     | 2950  | GORK | 21 GRF | 0531.9        | 0543.5                     | 27.5              | 6.7                                             |                |     |                 |
|     | 500   | HIRA | 45 C   | 0533.8        | 0534.5                     | 2.3               | 920.0                                           | 150.0          |     | MR              |
|     | 2695  | ATHN | 47 GB  | 0533.8        | 0534.6                     | 9.8               | 160.0                                           |                |     | QL=6 ST=2 TYP=5 |
|     | 5200  | BERN | 45 C   | 0533.8        | 0538.4                     | 20.0              | 110.0                                           |                |     |                 |
|     | 8400  | BERN | 45 C   | 0533.8        | 0538.4                     | 20.0              | 80.0                                            |                |     |                 |
|     | 11800 | BERN | 45 C   | 0533.8        | 0540.3                     | 20.0              | 45.0                                            |                |     |                 |
|     | 3100  | BERN | 45 C   | 0533.8        | 0540.4                     | 20.0              | 118.0                                           |                |     |                 |
|     | 3750  | TYKW | 5 S    | 0534.0        | 0534.9                     | 3.5               | 77.0                                            | 15.0           |     |                 |
|     | 2000  | TYKW | 5 S    | 0534.0        | 0535.1                     | 3.0               | 112.0                                           | 30.0           |     |                 |
|     | 2840  | PEKG | 45 C   | 0534.0        | 0535.2                     | 14.0              | 104.1                                           |                |     |                 |
|     | 1000  | TYKW | 45 C   | 0534.0        | 0535.6                     | 4.0               | 67.0                                            | 17.0           |     |                 |
|     | 2840  | PEKG |        | 0534.0        | 0540.5                     |                   | 99.5                                            | 17.3           |     |                 |
|     | 200   | HIRA |        | 0534.0        | 0534.8                     |                   | 950.0                                           |                |     | MR              |
|     | 200   | HIRA | SER    | 0534.0        | 0544.0                     | 20.0              | 6400.0                                          |                |     | MR              |
|     | 1415  | ATHN | 47 GB  | 0534.1        | 0535.1                     | 8.4               | 290.0                                           |                |     | QL=6 ST=2 TYP=5 |
|     | 8800  | ATHN | 47 GB  | 0534.1        | 0538.3                     | 9.9               | 90.0                                            |                |     | QL=6 ST=2 TYP=5 |
|     | 4995  | ATHN | 47 GB  | 0534.1        | 0538.3                     | 9.2               | 55.0                                            |                |     | QL=6 ST=2 TYP=5 |
|     | 245   | LEAR | 49 GB  | 0534.3E       | 0534.8                     | 1.80              | 720.0                                           |                |     | QL=6 ST=2 TYP=6 |
|     | 610   | LEAR | 47 GB  | 0534.3E       | 0535.0                     | 2.50              | 189.0                                           |                |     | QL=6 ST=2 TYP=5 |
|     | 4995  | LEAR | 47 GB  | 0534.3        | 0535.0                     | 2.5               | 65.0                                            |                |     | QL=6 ST=2 TYP=5 |
|     | 410   | LEAR | 49 GB  | 0534.3E       | 0535.1                     | 1.80              | 600.0                                           |                |     | QL=6 ST=2 TYP=6 |
|     | 950   | GORK | 46 C   | 0534.3        | 0535.1                     | 10.4              | 49.0                                            |                |     |                 |
|     | 8800  | LEAR | 8 S    | 0534.3        | 0535.1                     | 1.7               | 26.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 1415  | LEAR | 47 GB  | 0534.3        | 0535.3                     | 2.5               | 119.0                                           |                |     | QL=6 ST=2 TYP=5 |
|     | 950   | GORK |        | 0534.3        | 0539.1                     |                   | 75.0                                            |                |     |                 |
|     | 100   | HIRA |        | 0534.3        | 0539.7                     |                   | 9000.0                                          |                |     | 0               |
|     | 950   | GORK |        | 0534.3        | 0540.5                     |                   | 134.0                                           |                |     |                 |
|     | 950   | GORK |        | 0534.3        | 0542.1                     |                   | 56.0                                            |                |     |                 |
|     | 100   | HIRA | 42 SER | 0534.3        | 0543.80                    | 10.3              | 10000.00                                        |                |     |                 |
|     | 200   | GORK | 41 F   | 0534.4        | 0534.9                     | 15.4              | 1170.0                                          |                |     |                 |
|     | 650   | GORK | 4 S/F  | 0534.4        | 0534.9                     | 2.0               | 70.0                                            |                |     |                 |
|     | 2950  | GORK | 3 S    | 0534.4        | 0535.0                     | 1.5               | 78.0                                            | 38.0           |     |                 |
|     | 200   | GORK |        | 0534.4        | 0538.2                     |                   | 8500.0                                          |                |     |                 |
|     | 200   | GORK |        | 0534.4        | 0544.2                     |                   | 17200.0                                         |                |     |                 |
|     | 9400  | TYKW | 45 C   | 0534.5        | 0535.0                     | 1.5               | 16.0                                            | 8.0            |     |                 |
|     | 9100  | GORK | 1 S    | 0534.5        | 0535.1                     | 1.2               | 16.0                                            | 8.0            |     |                 |
|     | 234   | POTS | 4 S/F  | 0534.5        | 0544.0                     | 11.0              | 220000.0                                        | 600.0          |     | !!!             |

# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

43  
Apr 84

APRIL 1984

| Day | Freq | Sta  | Type   | Start<br>(UT) | Time of<br>Maximum<br>(UT) | Duration<br>(Min) | Flux Density    |                   | Int | Remarks         |
|-----|------|------|--------|---------------|----------------------------|-------------------|-----------------|-------------------|-----|-----------------|
|     |      |      |        |               |                            |                   | Peak<br>(10 -22 | Mean<br>W/m 2 Hz) |     |                 |
| 27  | 4995 | LEAR | 47 GB  | 0534.6        | 0535.0                     | 1.5               | 65.0            |                   |     | QL=6 ST=2 TYP=5 |
|     | 2695 | LEAR | 47 GB  | 0534.6        | 0535.1                     | 1.5               | 150.0           |                   |     | QL=6 ST=2 TYP=5 |
|     | 9395 | PEKG | 45 C   | 0534.6        | 0535.2                     | 15.4              | 18.0            |                   |     |                 |
|     | 9395 | PEKG |        | 0534.6        | 0540.4                     |                   | 45.2            | 10.0              |     |                 |
|     | 113  | POTS | 42 SER | 0534.6        | 0543.2                     | 11.0              | 11000.0         | 200.0             |     | 111             |
|     | 100  | GORK | 41 F   | 0534.7        | 0535.0                     | 10.0              | 2600.0          |                   |     |                 |
|     | 100  | GORK |        | 0534.7        | 0539.7                     |                   | 11800.0         |                   |     |                 |
|     | 100  | GORK |        | 0534.7        | 0544.3                     |                   | 187000.0        |                   |     |                 |
|     | 245  | LEAR | 49 GB  | 0534.8        | 0534.8                     | .8                | 720.0           |                   |     | QL=6 ST=2 TYP=6 |
|     | 610  | LEAR | 47 GB  | 0534.8        | 0535.0                     | 1.2               | 189.0           |                   |     | QL=6 ST=2 TYP=5 |
|     | 9400 | TYKW | 30 PBI | 0536.0        |                            | 45.0              | 8.0             | 4.0               |     |                 |
|     | 2000 | TYKW | 30 PBI | 0537.0        |                            | 20.0              | 3.0             | 1.5               |     |                 |
|     | 3750 | TYKW | 30 PBI | 0537.5        |                            | 20.0              | 6.0             | 3.0               |     |                 |
|     | 500  | HIRA | 45 C   | 0537.7        | 0538.0                     | 5.0               | 2900.0          | 120.0             |     | MR              |
|     | 9400 | TYKW | 45 C   | 0538.0        | 0538.5                     | 10.0              | 47.0            | 9.0               |     |                 |
|     | 2000 | TYKW | 45 C   | 0538.0        | 0540.4                     | 6.0               | 140.0           | 26.0              |     |                 |
|     | 1000 | TYKW | 45 C   | 0538.0        | 0540.4                     | 6.0               | 164.0           | 33.0              |     |                 |
|     | 3750 | TYKW | 45 C   | 0538.0        | 0540.4                     | 8.0               | 76.0            | 13.0              |     |                 |
|     | 9100 | GORK | 46 C   | 0538.0        | 0538.4                     | 4.2               | 56.0            |                   |     |                 |
|     | 2950 | GORK | 46 C   | 0538.0        | 0538.5                     | 2.8               | 38.0            |                   |     |                 |
|     | 8800 | LEAR | 47 GB  | 0538.0        | 0538.5                     | 4.8               | 62.0            |                   |     | QL=6 ST=2 TYP=5 |
|     | 9100 | GORK |        | 0538.0        | 0540.3                     |                   | 45.0            |                   |     |                 |
|     | 2950 | GORK |        | 0538.0        | 0540.4                     |                   | 84.0            |                   |     |                 |
|     | 650  | GORK | 46 C   | 0538.0        | 0540.4                     | 4.6               | 133.0           |                   |     |                 |
|     | 650  | GORK |        | 0538.0        | 0542.2                     |                   | 50.0            |                   |     |                 |
|     | 410  | LEAR | 49 GB  | 0538.1E       | 0538.3                     | 4.7D              | 4400.0          |                   |     | QL=6 ST=2 TYP=6 |
|     | 610  | LEAR | 47 GB  | 0538.1E       | 0538.3                     | 4.7D              | 139.0           |                   |     | QL=6 ST=2 TYP=5 |
|     | 4995 | LEAR | 47 GB  | 0538.1        | 0538.5                     | 4.7               | 83.0            |                   |     | QL=6 ST=2 TYP=5 |
|     | 2695 | LEAR | 47 GB  | 0538.1        | 0538.6                     | 4.7               | 68.0            |                   |     | QL=6 ST=2 TYP=5 |
|     | 245  | LEAR | 47 GB  | 0538.1E       | 0539.0                     | 3.9D              | 440.0           |                   |     | QL=6 ST=2 TYP=5 |
|     | 1415 | LEAR | 47 GB  | 0538.1        | 0540.3                     | 4.7               | 130.0           |                   |     | QL=6 ST=2 TYP=5 |
|     | 2950 | GORK | 1 S    | 0541.5        | 0541.9                     | .9                | 6.7             | 2.5               |     |                 |
|     | 245  | LEAR | 4 S/F  | 0543.0E       | 0543.1                     | 2.1D              | 17000.0         |                   |     | QL=6 ST=2 TYP=3 |
|     | 2000 | TYKW | 29 PBI | 0544.0        |                            | 6.0               | 2.0             | 1.0               |     |                 |
|     | 1000 | TYKW | 5 S    | 0550.3        | 0550.5                     | 0.7               | 2.0             | 0.5               |     |                 |
|     | 650  | GORK | 4 S/F  | 0550.3        | 0550.7                     | .6                | 24.0            | 6.0               |     |                 |
|     | 410  | LEAR | 8 S    | 0608.1        | 0608.1                     | .2                | 20.0            |                   |     | QL=6 ST=2 TYP=3 |
|     | 610  | LEAR | 8 S    | 0608.1        | 0608.1                     | .2                | 32.0            |                   |     | QL=6 ST=2 TYP=3 |
|     | 2000 | TYKW | 21 GRF | 0615.0        | 0640.0                     | 135.0             | 3.0             | 1.5               |     |                 |
|     | 2950 | GORK | 21 GRF | 0618.3        | 0633.0                     | 120.0             | 5.0             |                   |     |                 |
|     | 3750 | TYKW | 20 GRF | 0624.0        | 0635.0                     | 30.0              | 2.0             | 1.0               |     |                 |
|     | 9100 | GORK | 20 GRF | 0711.0        | 0729.0                     | 103.0             | 12.0            |                   |     |                 |
|     | 2000 | TYKW | 45 C   | 0723.0        | 0728.7                     | 8.0               | 16.0            | 4.0               |     |                 |
|     | 2840 | PEKG | 3 S    | 0723.0        | 0728.7                     | 13.0              | 13.9            | 4.5               |     |                 |
|     | 5200 | BERN | 1 S    | 0723.0        | 0728.4                     | 15.0              | 15.0            |                   |     |                 |
|     | 3100 | BERN | 1 S    | 0723.0        | 0729.1                     | 15.0              | 16.0            |                   |     |                 |
|     | 8400 | BERN | 1 S    | 0723.0        | 0729.3                     | 15.0              | 17.0            |                   |     |                 |
|     | 3750 | TYKW | 5 S    | 0724.0        | 0729.0                     | 8.0               | 13.0            | 7.0               |     |                 |
|     | 1470 | POTS | 4 S/F  | 0725.0        | 0728.7                     | 5.5               | 9.0             |                   |     |                 |
|     | 2902 | YUWJ | 20 GRF | 0725.7        | 0728.4                     | 13.5              | 45.0            |                   |     |                 |
|     | 3000 | POTS | 20 GRF | 0726.0U       | 0728.7                     | 8.0U              | 11.0            |                   |     |                 |
|     | 3000 | IZMI | 5 S    | 0726.0        | 0729.0                     | 5.0               | 16.0            | 8.0               |     |                 |
|     | 3100 | CRIM | 1 S    | 0726.0        | 0729.0                     | 7.0               | 16.0            | 5.0               |     |                 |
|     | 9500 | POTS | 20 GRF | 0726.0        | 0729.5                     | 5.0               | 9.0             |                   |     |                 |
|     | 9400 | TYKW | 5 S    | 0727.0        | 0729.0                     | 6.0               | 7.0             | 2.5               |     |                 |
|     | 650  | GORK | 4 S/F  | 0727.0        | 0728.5                     | 2.3               | 74.0            |                   |     |                 |
|     | 950  | GORK | 4 S/F  | 0727.0        | 0728.7                     | 6.0               | 10.5            |                   |     |                 |
|     | 2695 | ATHN | 4 S/F  | 0727.6        | 0729.1                     | 3.2               | 16.0            |                   |     | QL=6 ST=2 TYP=3 |
|     | 2950 | GORK | 1 S    | 0727.9        | 0728.6                     | 2.4               | 5.0             | 2.5               |     |                 |
|     | 1000 | TYKW | 45 C   | 0728.0        | 0729.2                     | 2.0               | 4.0             | 1.0               |     |                 |
|     | 1415 | ATHN | 8 S    | 0728.0        | 0728.6                     | 1.8               | 6.0             |                   |     | QL=6 ST=2 TYP=3 |
|     | 2000 | TYKW | 29 PBI | 0731.0        |                            | 55.0              | 4.0             | 2.0               |     |                 |
|     | 3750 | TYKW | 29 PBI | 0732.0        |                            | 30.0              | 3.0             | 1.5               |     |                 |
|     | 3100 | CRIM | 45 C   | 0734.4        | 0735.0                     | 12.0              | 108.0           |                   |     |                 |
|     | 3100 | CRIM |        | 0734.4        | 0740.5                     |                   | 126.0           | 42.0              |     |                 |
|     | 410  | LEAR | 8 S    | 0853.6E       | 0853.8                     | .2D               | 36.0            |                   |     | QL=6 ST=2 TYP=3 |
|     | 245  | LEAR | 8 S    | 0853.6E       | 0853.8                     | .2D               | 24.0            |                   |     | QL=6 ST=2 TYP=3 |
|     | 808  | ONDR | 42 SER | 0917.5        | 0917.5                     | 29.0              | 109.0           |                   |     |                 |
|     | 3100 | CRIM | 1 S    | 0935.0        | 0936.5                     | 3.0               | 4.0             | 1.0               |     |                 |
|     | 2950 | GORK | 1 S    | 0935.1        | 0936.0                     | 3.2               | 5.0             | 2.5               |     |                 |
|     | 9100 | GORK | 20 GRF | 1127.5        | 1144.3                     | 36.0D             | 14.0            |                   |     |                 |

44  
Apr 84

# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

APRIL 1984

| Day | Freq  | Sta  | Type   | Start<br>(UT) | Time of<br>Maximum<br>(UT) | Duration<br>(Min) | Flux Density<br>Peak<br>(10 <sup>-22</sup> W/m <sup>2</sup> Hz) | Mean   | Int | Remarks         |
|-----|-------|------|--------|---------------|----------------------------|-------------------|-----------------------------------------------------------------|--------|-----|-----------------|
| 27  | 2950  | GORK | 20 GRF | 1129.6        | 1139.0                     | 34.00             | 5.9                                                             |        |     |                 |
|     | 3100  | CRIM | 1 S    | 1138.6        | 1139.0                     | 2.0               | 29.0                                                            | 10.0   |     |                 |
|     | 2800  | OTTA | 20 GRF | 1245.0        | 1305.0                     | 40.0              | 2.8                                                             | 1.4    |     |                 |
|     | 2800  | OTTA | 28 PRE | 1350.0        | 1352.0                     | 9.0               | 2.4                                                             |        |     |                 |
|     | 5200  | BERN | 45 C   | 1358.0        | 1404.9                     | 80.00             | 154.0                                                           |        |     |                 |
|     | 8400  | BERN | 45 C   | 1358.0        | 1404.9                     | 80.00             | 138.0                                                           |        |     |                 |
|     | 3100  | BERN | 45 C   | 1358.0        | 1407.5                     | 80.00             | 74.0                                                            |        |     |                 |
|     | 19600 | BERN | 45 C   | 1358.0        | 1457.9                     | 80.00             | 146.0                                                           |        |     |                 |
|     | 11800 | BERN | 45 C   | 1358.0        | 1458.0                     | 80.00             | 205.0                                                           |        |     |                 |
|     | 4995  | ATHN | 47 GB  | 1358.6        | 1404.8                     | 13.4              | 180.0                                                           |        |     | QL=6 ST=2 TYP=5 |
|     | 2695  | PENT | 45 C   | 1359.0        | 1407.3                     | 13.0              | 70.0                                                            | 39.8   |     |                 |
|     | 4995  | SGMR | 47 GB  | 1359.1        | 1401.8                     | 16.4              | 63.0                                                            |        |     | QL=6 ST=2 TYP=5 |
|     | 8800  | SGMR | 47 GB  | 1359.3        | 1401.0                     | 16.2              | 89.0                                                            |        |     | QL=6 ST=2 TYP=5 |
|     | 8800  | ATHN | 47 GB  | 1359.8        | 1404.8                     | 10.7              | 139.0                                                           |        |     | QL=6 ST=2 TYP=5 |
|     | 1415  | ATHN | 47 GB  | 1359.8        | 1407.1                     | 11.0              | 169.0                                                           |        |     | QL=6 ST=2 TYP=5 |
|     | 2695  | ATHN | 47 GB  | 1359.8        | 1407.3                     | 11.0              | 89.0                                                            |        |     | QL=6 ST=2 TYP=5 |
|     | 808   | ONDR | 46     | 1400.0        | 1400.0                     |                   |                                                                 | 54.0   |     |                 |
|     | 15400 | SGMR | 47 GB  | 1400.0        | 1401.0                     | 15.5              | 41.0                                                            |        |     | QL=6 ST=2 TYP=5 |
|     | 808   | ONDR |        | 1400.0        | 1401.8                     |                   | 62.0                                                            |        |     |                 |
|     | 808   | ONDR |        | 1400.0        | 1404.5                     |                   | 113.0                                                           |        |     |                 |
|     | 1470  | POTS | 46 C   | 1400.0        | 1407.3                     | 51.00             | 133.0                                                           |        |     |                 |
|     | 808   | ONDR |        | 1400.0        | 1407.5                     |                   | 150.0                                                           |        |     |                 |
|     | 3000  | POTS | 45 C   | 1400.0        | 1407.5                     | 51.00             | 63.0                                                            |        |     |                 |
|     | 2695  | SGMR | 4 S/F  | 1400.1        | 1401.8                     | 16.0              | 26.0                                                            |        |     | QL=6 ST=2 TYP=3 |
|     | 9500  | POTS | 45 C   | 1400.5        | 1405.0                     | 51.00             | 103.0                                                           |        |     |                 |
|     | 610   | SGMR | 8 S    | 1400.6        | 1401.6                     | 1.0               | 21.0                                                            |        |     | QL=6 ST=2 TYP=3 |
|     | 1415  | SGMR | 47 GB  | 1400.6        | 1402.8                     | 10.5              | 24.0                                                            |        |     | QL=6 ST=2 TYP=5 |
|     | 2800  | OTTA | 30 FBI | 1412.0        | 1412.0                     | 370.0             | 28.0                                                            | 11.2   |     |                 |
|     | 15400 | SGMR | 47 GB  | 1457.6        | 1458.0                     | 2.7               | 210.0                                                           |        |     | QL=6 ST=2 TYP=5 |
|     | 8800  | ATHN | 47 GB  | 1457.6        | 1458.1                     | 3.7               | 100.0                                                           |        |     | QL=6 ST=2 TYP=5 |
|     | 8800  | SGMR | 47 GB  | 1457.6        | 1458.1                     | 3.0               | 119.0                                                           |        |     | QL=6 ST=2 TYP=5 |
|     | 4995  | ATHN | 4 S/F  | 1457.6        | 1458.5                     | 3.7               | 17.0                                                            |        |     | QL=6 ST=2 TYP=3 |
|     | 4995  | SGMR | 8 S    | 1457.8        | 1458.1                     | .8                | 20.0                                                            |        |     | QL=6 ST=2 TYP=3 |
|     | 2800  | OTTA | 1 S    | 1500.0        | 1502.0                     | 5.0               | 2.8                                                             | 1.4    |     |                 |
|     | 245   | SGMR | 49 GB  | 1521.5        | 1521.6                     | 1.3               | 580.0                                                           |        |     | QL=6 ST=2 TYP=6 |
|     | 410   | SGMR | 8 S    | 1521.6        | 1521.8                     | .5                | 47.0                                                            |        |     | QL=6 ST=2 TYP=3 |
|     | 1415  | ATHN | 47 GB  | 1543.5        | 1544.1                     | 1.8               | 420.0                                                           |        |     | QL=6 ST=3 TYP=5 |
|     | 1415  | ATHN | 47 GB  | 1544.0        | 1544.6                     | 1.3               | 420.0                                                           |        |     | QL=6 ST=2 TYP=5 |
|     | 2800  | OTTA | 23 GRF | 1640.0        | 1715.0                     | 130.0             | 8.4                                                             | 4.2    |     |                 |
|     | 2800  | OTTA | 1 S    | 1653.0        | 1653.2                     | 2.0               | 4.2                                                             | 2.6    |     |                 |
|     | 2800  | OTTA | 1 S    | 1739.5        | 1741.2                     | 3.5               | 6.0                                                             | 3.0    |     |                 |
|     | 2800  | OTTA | 1 S    | 1917.8        | 1917.9                     | 1.0               | 2.2                                                             |        |     |                 |
|     | 2800  | OTTA | 20 GRF | 2025.0        | 2045.0                     | 45.0              | 2.8                                                             | 1.4    |     |                 |
|     | 500   | HIRA | 8 S    | 2049.6        | 2050.0                     | .6                | 6.0                                                             |        |     | WR              |
|     | 200   | HIRA | 8 S    | 2049.7        | 2050.0                     | .6                | 470.0                                                           |        |     | 0               |
|     | 2000  | TYKW | 21 GRF | 2120.0        | 2300.0                     | 280.0             | 4.0                                                             | 2.0    |     |                 |
|     | 1000  | TYKW | 21 GRF | 2120.0        | 2300.0                     | 280.0             | 2.0                                                             | 1.0    |     |                 |
|     | 3750  | TYKW | 21 GRF | 2120.0        | 2330.0                     | 280.0             | 8.0                                                             | 4.0    |     |                 |
|     | 3750  | TYKW | 5 S    | 2129.0        | 2129.7                     | 2.0               | 3.0                                                             | 1.0    |     |                 |
|     | 3750  | TYKW | 45 C   | 2133.0        | 2137.7                     | 25.0              | 6.0                                                             | 1.5    |     |                 |
|     | 3750  | TYKW | 45 C   | 2207.0        | 2211.0                     | 9.0               | 7.0                                                             | 3.0    |     |                 |
|     | 2800  | OTTA | 20 GRF | 2210.0        | 2212.0                     | 13.0              | 3.6                                                             | 1.8    |     |                 |
|     | 3750  | TYKW | 29 FBI | 2216.0        |                            | 15.0              | 2.0                                                             | 1.0    |     |                 |
|     | 1000  | TYKW | 45 C   | 2224.2        | 2224.5                     | 1.0               | 22.0                                                            | 5.0    |     |                 |
|     | 2695  | PENT | 20 GRF | 2245.0        | 2257.0                     | 25.0              | 3.0                                                             | 1.5    |     |                 |
|     | 9400  | TYKW | 20 GRF | 2247.0        | 2257.0                     | 55.0              | 4.0                                                             | 2.0    |     |                 |
|     | 3750  | TYKW | 45 C   | 2250.0        | 2300.0                     | 20.0              | 4.0                                                             | 2.0    |     |                 |
|     | 208   | VORO | 1 S    | 2331.0        | 2333.0                     | 3.0               | 200.00                                                          |        |     |                 |
|     | 1000  | TYKW | 5 S    | 2332.9        | 2333.0                     | 0.5               | 2.0                                                             | 0.5    |     |                 |
|     | 610   | PALE | 47 GB  | 2334.6        | 2334.8                     | .4                | 139.0                                                           |        |     | QL=6 ST=2 TYP=5 |
|     | 410   | PALE | 8 S    | 2334.6        | 2334.8                     | .4                | 18.0                                                            |        |     | QL=6 ST=2 TYP=3 |
|     | 245   | PALE | 47 GB  | 2334.6        | 2334.8                     | .4                | 70.0                                                            |        |     | QL=6 ST=2 TYP=5 |
|     | 1000  | TYKW | 8 S    | 2334.8        | 2334.9                     | 0.2               | 8.0                                                             | 2.0    |     |                 |
|     | 410   | LEAR | 4 S/F  | 2334.8        | 2335.5                     | 5.5               | 18.0                                                            |        |     | QL=6 ST=2 TYP=3 |
|     | 245   | LEAR | 47 GB  | 2335.0        | 2338.5                     | 5.1               | 210.0                                                           |        |     | QL=6 ST=2 TYP=5 |
|     | 1000  | TYKW | 45 C   | 2336.0        | 2336.3                     | 3.0               | 14.0                                                            | 1.0    |     |                 |
|     | 200   | HIRA | 46 C   | 2337.3        | 2338.0                     | 2.3               | 374.0                                                           | 50.0   |     | SR              |
|     | 100   | HIRA | 46 C   | 2337.6        |                            | 1.9               | 1300.00                                                         | 825.00 |     |                 |
|     | 1000  | TYKW | 21 GRF | 2355.0        | 0020.0                     | 120.0             | 1.5                                                             | 0.7    |     |                 |
| 28  | 200   | GORK | 44 NS  | 0341.0E       |                            | 499.00            |                                                                 | 20.0   |     |                 |

# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

45  
Apr 84

APRIL 1984

| Day | Freq  | Sta  | Type   | Start<br>(UT) | Time of<br>Maximum<br>(UT) | Duration<br>(Min) | Flux Density                                    |                | Int | Remarks         |
|-----|-------|------|--------|---------------|----------------------------|-------------------|-------------------------------------------------|----------------|-----|-----------------|
|     |       |      |        |               |                            |                   | Peak<br>(10 <sup>-22</sup> W/m <sup>2</sup> Hz) | Mean<br>(2 Hz) |     |                 |
| 28  | 100   | GORK | 44 NS  | 0342.0E       |                            | 498.0D            |                                                 | 250.0          |     |                 |
|     | 33    | UPIC | 44 NS  | 0500.0E       |                            | 720.0D            |                                                 |                |     |                 |
|     | 29    | UPIC | 44 NS  | 0500.0E       |                            | 720.0D            |                                                 |                |     |                 |
|     | 204   | IZMI | 44 NS  | 0600.0E       |                            | 360.0D            | 50.0                                            |                |     |                 |
|     | 260   | ONDR | 44 NS  | 0610.0E       |                            | 484.0D            | 26.0                                            |                |     |                 |
|     | 127   | TORN | 44 NS  | 0620.0E       | 1058.8                     | 520.0D            | 660.0                                           | 90.0           |     | V=1             |
|     | 245   | SGMR | 43 NS  | 1004.0        | 2004.6                     | 794.0D            | 139.0                                           |                |     | QL=6 ST=2 TYP=1 |
|     | 245   | PALE | 43 NS  | 1636.0        | 1928.8                     | 684.0D            | 150.0                                           |                |     | QL=6 ST=2 TYP=1 |
|     | 100   | HIRA | 44 NS  | 1945.0E       | 0328.0                     | 810.0D            | 2500.0U                                         | 560.0U         |     |                 |
|     | 200   | HIRA | 44 NS  | 1945.0E       | 0339.0                     | 810.0D            | 20.0                                            | 5.0            |     | WR              |
|     | 208   | VORO | 44 NS  | 2200.0E       |                            | 180.0D            |                                                 | 16.0           |     |                 |
|     | 245   | LEAR | 43 NS  | 2259.0        | 0810.8                     | 644.0D            | 260.0                                           |                |     | QL=5 ST=2 TYP=1 |
|     | 1000  | TYKW | 5 S    | 0008.0        | 0010.6                     | 6.0               | 2.0                                             | 0.7            |     |                 |
|     | 3750  | TYKW | 21 GRF | 0025.0        | 0104.0                     | 90.0              | 5.0                                             | 3.0            |     |                 |
|     | 9400  | TYKW | 20 GRF | 0030.0        | 0103.0                     | 70.0              | 4.0                                             | 2.0            |     |                 |
|     | 2000  | TYKW | 21 GRF | 0030.0        | 0110.0                     | 80.0              | 2.0                                             | 1.0            |     |                 |
|     | 200   | HIRA | 46 C   | 0055.2        | 0055.6                     | 1.0               | 400.0                                           | 110.0          |     | WR              |
|     | 3750  | TYKW | 5 S    | 0055.5        | 0055.7                     | 1.5               | 3.0                                             | 1.0            |     |                 |
|     | 2000  | TYKW | 5 S    | 0055.5        | 0055.8                     | 1.5               | 6.0                                             | 1.5            |     |                 |
|     | 100   | HIRA | 46 C   | 0055.6        | 0055.7                     | 1.0               | 4100.0                                          | 840.0          |     | 0               |
|     | 1000  | TYKW | 45 C   | 0055.6        | 0055.8                     | 1.0               | 7.0                                             | 3.0            |     |                 |
|     | 208   | VORO | 27 RF  | 0100.0        | 0123.0                     | 40.0              | 122.0                                           |                |     |                 |
|     | 2000  | TYKW | 5 S    | 0114.7        | 0115.0                     | 1.0               | 1.5                                             | 0.5            |     |                 |
|     | 2000  | TYKW | 45 C   | 0124.0        | 0126.7                     | 20.0              | 2.0                                             | 0.5            |     |                 |
|     | 3750  | TYKW | 31 ABS | 0200.0        | 0322.0                     | 120.0             | -8.0                                            | -4.0           |     |                 |
|     | 2000  | TYKW | 31 ABS | 0200.0        | 0330.0                     | 130.0             | -4.0                                            | -2.0           |     |                 |
|     | 1000  | TYKW | 31 ABS | 0200.0        | 0335.0                     | 140.0             | -1.5                                            | -0.7           |     |                 |
|     | 9400  | TYKW | 32 ABS | 0200.0        | 0315.0                     | 115.0             | -8.0                                            | -3.0U          |     | INTERFERENCE    |
|     | 200   | GORK | 41 F   | 0335.6        | 0335.9                     | 10.5              | 360.0                                           |                |     |                 |
|     | 200   | GORK |        | 0335.6        | 0446.0                     |                   | 930.0                                           |                |     |                 |
|     | 500   | HIRA | 27 RF  | 0344.0        | 0415.3                     | 70.0              | 4.0                                             | 2.0            |     | WL              |
|     | 9400  | TYKW | 32 ABS | 0402.0        | 0421.0                     | 60.0              | -6.0                                            | -2.0           |     |                 |
|     | 2950  | GORK | 21 GRF | 0420.2        | 0446.0                     | 27.2              | 3.3                                             | 1.0            |     |                 |
|     | 1000  | TYKW | 45 C   | 0426.3        | 0426.7                     | 0.7               | 2.0                                             | 0.3            |     |                 |
|     | 650   | GORK | 23 GRF | 0430.0U       | 0437.5                     | 22.9U             | 3.0                                             |                |     |                 |
|     | 1000  | TYKW | 45 C   | 0435.0        | 0435.7                     | 1.0               | 6.0                                             | 1.0            |     |                 |
|     | 500   | HIRA | 8 S    | 0435.1        | 0435.1                     | .3                | 20.0                                            |                |     | MR              |
|     | 950   | GORK | 1 S    | 0435.1        | 0435.6                     | .5                | 14.0                                            |                |     |                 |
|     | 100   | HIRA | 42 SER | 0435.3        | 0445.3                     | 11.7              | 8300.0                                          |                |     | WR              |
|     | 100   | GORK | 41 F   | 0435.4        | 0435.5                     | 12.7              | 1200.0                                          |                |     |                 |
|     | 650   | GORK | 2 S/F  | 0435.4        | 0435.6                     | .5                | 10.0                                            | 5.0            |     |                 |
|     | 100   | GORK |        | 0435.4        | 0441.9                     |                   | 5000.0                                          |                |     |                 |
|     | 100   | GORK |        | 0435.4        | 0445.4                     |                   | 10000.0                                         |                |     |                 |
|     | 9395  | PEKG | 3 S    | 0441.0        | 0442.0                     | 2.0               | 49.0                                            | 8.6            |     |                 |
|     | 1415  | ATHN | 8 S    | 0441.5        | 0442.1                     | 1.0               | 13.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 2695  | ATHN | 8 S    | 0441.5        | 0442.1                     | 1.0               | 22.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 2840  | PEKG | 8 S    | 0441.6        | 0442.0                     | 1.0               | 33.9                                            | 17.0           |     |                 |
|     | 9100  | GORK | 4 S/F  | 0441.7        | 0441.9                     | 1.0               | 77.0                                            | 28.0           |     |                 |
|     | 9400  | TYKW | 5 S    | 0441.7        | 0442.0                     | 1.0               | 70.0                                            | 16.0           |     |                 |
|     | 950   | GORK | 1 S    | 0441.7        | 0442.0                     | .5                | 6.0                                             |                |     |                 |
|     | 17000 | NOBE | 1 S    | 0441.7        | 0442.0                     | .8                | 32.0                                            |                |     | 0               |
|     | 650   | GORK | 2 S/F  | 0441.7        | 0442.0                     | .6                | 11.0                                            | 5.0            |     |                 |
|     | 1000  | TYKW | 5 S    | 0441.7        | 0442.0                     | 0.8               | 7.0                                             | 2.0            |     |                 |
|     | 8800  | ATHN | 47 GB  | 0441.8        | 0442.0                     | .7                | 75.0                                            |                |     | QL=6 ST=2 TYP=5 |
|     | 2000  | TYKW | 5 S    | 0441.8        | 0442.0                     | 1.0               | 19.0                                            | 5.0            |     |                 |
|     | 2950  | GORK | 1 S    | 0441.8        | 0442.0                     | .5                | 25.0                                            | 12.0           |     |                 |
|     | 3750  | TYKW | 5 S    | 0441.8        | 0442.0                     | 1.0               | 34.0                                            | 10.0           |     |                 |
|     | 2695  | LEAR | 8 S    | 0441.8        | 0442.1                     | .7                | 29.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 4995  | ATHN | 8 S    | 0441.8        | 0442.1                     | .7                | 41.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 4995  | LEAR | 8 S    | 0441.8        | 0442.1                     | .7                | 47.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 8800  | LEAR | 47 GB  | 0441.8        | 0442.1                     | .7                | 76.0                                            |                |     | QL=6 ST=2 TYP=5 |
|     | 15400 | LEAR | 8 S    | 0442.0        | 0442.1                     | .3                | 40.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 500   | HIRA | 42 SER | 0444.3        | 0444.5                     | 3.5               | 11.0                                            |                |     | WR              |
|     | 2000  | TYKW | 45 C   | 0445.0        | 0445.8                     | 3.0               | 4.0                                             | 1.0            |     |                 |
|     | 1000  | TYKW | 45 C   | 0445.0        | 0445.8                     | 1.5               | 1.5                                             | 0.5            |     |                 |
|     | 650   | GORK | 46 C   | 0445.0        | 0445.7                     | 7.9               | 19.0                                            |                |     |                 |
|     | 650   | GORK |        | 0445.0        | 0447.7                     |                   | 45.0                                            |                |     |                 |
|     | 610   | LEAR | 4 S/F  | 0445.1        | 0445.5                     | 3.0               | 20.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 410   | LEAR | 8 S    | 0445.1        | 0445.8                     | 1.4               | 10.0                                            |                |     | QL=6 ST=2 TYP=3 |
|     | 245   | LEAR | 47 GB  | 0445.1        | 0446.0                     | 2.0               | 160.0                                           |                |     | QL=6 ST=2 TYP=5 |
|     | 1000  | TYKW | 45 C   | 0447.0        | 0447.8                     | 1.5               | 200.0                                           | 17.0           |     |                 |

SOLAR RADIO EMISSION  
OUTSTANDING OCCURRENCES

APRIL 1984

| Day | Freq | Sta  | Type   | Start<br>(UT) | Time of<br>Maximum<br>(UT) | Duration<br>(Min) | Flux Density<br>Peak<br>(10 <sup>-22</sup> W/m <sup>2</sup> Hz) | Mean | Int | Remarks         |
|-----|------|------|--------|---------------|----------------------------|-------------------|-----------------------------------------------------------------|------|-----|-----------------|
| 28  | 2000 | TYKW | 31 ABS | 0448.0        | 0501.0                     | 30.0              | -1.0                                                            | -0.5 |     |                 |
|     | 1000 | TYKW | 5 S    | 0504.4        | 0504.7                     | 0.6               | 168.0                                                           | 25.0 |     |                 |
|     | 1000 | TYKW | 45 C   | 0517.3        | 0518.9                     | 2.0               | 31.0                                                            | 7.0  |     |                 |
|     | 650  | GORK | 46 C   | 0517.5        | 0517.8                     | 1.6               | 10.0                                                            |      |     |                 |
|     | 650  | GORK |        | 0517.5        | 0518.9                     |                   | 36.0                                                            |      |     |                 |
|     | 9400 | TYKW | 21 GRF | 0528.0        | 0538.0                     | 45.0              | 4.0                                                             | 2.0  |     |                 |
|     | 2000 | TYKW | 20 GRF | 0530.0        | 0544.0                     | 30.0              | 2.0                                                             | 1.0  |     |                 |
|     | 1000 | TYKW | 8 S    | 0530.1        | 0530.2                     | 0.3               | 2.0                                                             | 0.5  |     |                 |
|     | 9100 | GORK | 21 GRF | 0531.6        | 0658.0                     | 164.0             | 11.0                                                            |      |     |                 |
|     | 3750 | TYKW | 21 GRF | 0534.0        | 0544.0                     | 40.0              | 3.0                                                             | 1.5  |     |                 |
|     | 2950 | GORK | 20 GRF | 0532.8        | 0558.4                     | 26.5              | 4.2                                                             | 2.0  |     |                 |
|     | 1000 | TYKW | 45 C   | 0542.0        | 0542.7                     | 1.0               | 17.0                                                            | 2.0  |     |                 |
|     | 1000 | TYKW | 8 S    | 0544.0        | 0544.1                     | 0.2               | 36.0                                                            | 9.0  |     |                 |
|     | 4995 | ATHN | 4 S/F  | 0555.5        | 0558.5                     | 4.1               | 26.0                                                            |      |     | QL=6 ST=3 TYP=3 |
|     | 1000 | TYKW | 45 C   | 0556.5        | 0556.8                     | 1.0               | 68.0                                                            | 10.0 |     |                 |
|     | 610  | LEAR | 8 S    | 0556.5        | 0557.0                     | 1.0               | 24.0                                                            |      |     | QL=6 ST=2 TYP=3 |
|     | 9400 | TYKW | 5 S    | 0557.0        | 0558.4                     | 3.0               | 20.0                                                            | 7.0  |     |                 |
|     | 5200 | BERN | 3 S    | 0557.5        | 0558.4                     | 9.0               | 24.0                                                            |      |     |                 |
|     | 8400 | BERN | 3 S    | 0557.5        | 0558.4                     | 9.0               | 32.0                                                            |      |     |                 |
|     | 3750 | TYKW | 5 S    | 0557.5        | 0558.4                     | 2.0               | 13.0                                                            | 5.0  |     |                 |
|     | 3100 | BERN | 3 S    | 0557.5        | 0558.5                     | 9.0               | 7.0                                                             |      |     |                 |
|     | 9100 | GORK | 1 S    | 0557.6        | 0558.4                     | 1.7               | 19.0                                                            | 10.0 |     |                 |
|     | 3100 | GRIM | 1 S    | 0557.8        | 0558.5                     | 2.0               | 5.0                                                             | 2.0  |     |                 |
|     | 8800 | LEAR | 8 S    | 0558.0        | 0558.6                     | 1.3               | 32.0                                                            |      |     | QL=6 ST=2 TYP=3 |
|     | 8800 | ATHN | 8 S    | 0558.1        | 0558.5                     | .9                | 32.0                                                            |      |     | QL=6 ST=3 TYP=3 |
|     | 4995 | LEAR | 8 S    | 0558.1        | 0558.6                     | .7                | 24.0                                                            |      |     | QL=6 ST=2 TYP=3 |
|     | 3750 | TYKW | 29 FBI | 0559.5        |                            | 8.0               | 3.0                                                             | 1.50 |     |                 |
|     | 9400 | TYKW | 29 FBI | 0600.0        |                            | 10.0              | 6.0                                                             | 3.00 |     |                 |
|     | 2950 | GORK | 22 GRF | 0618.6        | 0658.5                     | 93.0              | 10.0                                                            |      |     |                 |
|     | 2000 | TYKW | 45 C   | 0631.0        | 0632.2                     | 2.0               | 3.0                                                             | 0.7  |     |                 |
|     | 3750 | TYKW | 28 PRE | 0637.0        | 0649.0                     | 16.0              | 4.0                                                             | 2.0  |     |                 |
|     | 3750 | TYKW | 5 S    | 0637.3        | 0638.0                     | 1.5               | 3.0                                                             | 1.0  |     |                 |
|     | 9400 | TYKW | 20 GRF | 0640.0        | 0659.0                     | 80.0              | 9.0                                                             | 4.0  |     |                 |
|     | 2000 | TYKW | 21 GRF | 0640.0        | 0705.0                     | 110.0             | 4.0                                                             | 2.0  |     |                 |
|     | 3100 | CRIM | 3 S    | 0642.0        | 0658.5                     | 78.0              | 20.0                                                            | 7.0  |     |                 |
|     | 1000 | TYKW | 45 C   | 0644.3        | 0645.1                     | 1.7               | 200.0                                                           | 18.0 |     |                 |
|     | 610  | LEAR | 8 S    | 0644.6        | 0644.8                     | 1.2               | 24.0                                                            |      |     | QL=6 ST=2 TYP=3 |
|     | 3100 | BERN | 4 S/F  | 0645.0        | 0652.3                     | 65.0              | 25.0                                                            |      |     |                 |
|     | 5200 | BERN | 3 S    | 0645.0        | 0658.4                     | 65.0              | 23.0                                                            |      |     |                 |
|     | 8400 | BERN | 3 S    | 0645.0        | 0701.6                     | 65.0              | 22.0                                                            |      |     |                 |
|     | 3750 | TYKW | 5 S    | 0653.0        | 0658.6                     | 11.0              | 22.0                                                            | 12.0 |     |                 |
|     | 3750 | TYKW | 30 FBI | 0704.0        |                            | 50.0              | 10.0                                                            | 5.0  |     |                 |
|     | 245  | LEAR | 8 S    | 0742.8        | 0743.1                     | .5                | 32.0                                                            |      |     | QL=6 ST=2 TYP=3 |
|     | 410  | LEAR | 8 S    | 0742.8        | 0743.1                     | .3                | 20.0                                                            |      |     | QL=6 ST=2 TYP=3 |
|     | 2000 | TYKW | 5 S    | 0744.0        | 0744.4                     | 2.0               | 19.0                                                            | 2.0  |     |                 |
|     | 3750 | TYKW | 5 S    | 0744.0        | 0744.5                     | 2.0               | 4.0                                                             | 1.5  |     |                 |
|     | 3100 | CRIM | 1 S    | 0744.0        | 0744.4                     | 5.0               | 6.0                                                             | 2.0  |     |                 |
|     | 1470 | POTS | 8 S    | 0744.0        | 0744.6                     | 1.0               | 16.0                                                            |      |     |                 |
|     | 3000 | POTS | 1 S    | 0744.0        | 0744.6                     | 1.0               | 4.0                                                             |      |     |                 |
|     | 1415 | ATHN | 8 S    | 0744.1        | 0744.6                     | .7                | 16.0                                                            |      |     | QL=6 ST=2 TYP=3 |
|     | 1000 | TYKW | 45 C   | 0744.2        | 0744.3                     | 0.5               | 5.0                                                             | 1.0  |     |                 |
|     | 1415 | LEAR | 8 S    | 0744.3        | 0744.6                     | .7                | 24.0                                                            |      |     | QL=6 ST=2 TYP=3 |
|     | 2950 | GORK | 1 S    | 0755.4        | 0755.5                     | .3                | 5.0                                                             | 2.5  |     |                 |
|     | 2950 | GORK | 1 S    | 0757.7        | 0758.0                     | .3                | 5.0                                                             | 2.5  |     |                 |
|     | 2950 | GORK | 1 S    | 0803.7        | 0803.8                     | .4                | 3.3                                                             | 1.5  |     |                 |
|     | 245  | LEAR | 8 S    | 0806.6E       | 0806.6                     | .20               | 22.0                                                            |      |     | QL=6 ST=2 TYP=3 |
|     | 410  | LEAR | 8 S    | 0806.6        | 0806.6                     | .2                | 13.0                                                            |      |     | QL=6 ST=2 TYP=3 |
|     | 9100 | GORK | 20 GRF | 0818.0        | 1115.0                     | 218.00            | 19.0                                                            |      |     |                 |
|     | 5200 | BERN | 4 S/F  | 0854.8        | 0855.8                     | 12.0              | 10.0                                                            |      |     |                 |
|     | 3100 | BERN | 4 S/F  | 0854.8        | 0856.1                     | 12.0              | 20.0                                                            |      |     |                 |
|     | 2950 | GORK | 21 GRF | 0854.8        | 0858.8                     | 17.7              | 5.1                                                             |      |     |                 |
|     | 3100 | CRIM | 45 C   | 0855.1        | 0856.0                     | 11.0              | 16.0                                                            | 5.0  |     |                 |
|     | 3100 | CRIM |        | 0855.1        | 0859.8                     |                   | 9.0                                                             |      |     |                 |
|     | 1470 | POTS | 1 S    | 0855.5        | 0856.0                     | 1.0               | 5.0                                                             |      |     |                 |
|     | 4995 | ATHN | 8 S    | 0855.6        | 0856.0                     | .5                | 13.0                                                            |      |     | QL=6 ST=2 TYP=3 |
|     | 2695 | ATHN | 8 S    | 0855.6        | 0856.1                     | .9                | 11.0                                                            |      |     | QL=6 ST=2 TYP=3 |
|     | 1415 | ATHN | 8 S    | 0855.6        | 0856.1                     | .7                | 7.0                                                             |      |     | QL=6 ST=2 TYP=3 |
|     | 2950 | GORK | 1 S    | 0855.7        | 0856.0                     | .6                | 8.5                                                             | 4.0  |     |                 |
|     | 3000 | POTS | 3 S    | 0855.7        | 0856.0                     | 1.0               | 13.0                                                            |      |     |                 |
|     | 100  | GORK | 46 C   | 0857.6        | 0858.0                     | 1.2               | 560.0                                                           |      |     |                 |
|     | 160  | GORK |        | 0857.6        | 0858.4                     |                   | 1600.0                                                          |      |     |                 |

# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

47  
Apr 84

APRIL 1984

| Day | Freq  | Sta  | Type | Start<br>(UT) | Time of<br>Maximum<br>(UT) | Duration<br>(Min) | Flux Density<br>Peak<br>(10 <sup>-22</sup> W/m <sup>2</sup> Hz) | Mean   | Int  | Remarks         |
|-----|-------|------|------|---------------|----------------------------|-------------------|-----------------------------------------------------------------|--------|------|-----------------|
| 28  | 950   | GORK | 20   | GRF           | 0930.1                     | 1142.8            | 150.00                                                          | 7.5    |      |                 |
|     | 808   | ONDR | 40   | F             | 1018.5                     | 1018.8            | 1.0                                                             | 44.0   |      |                 |
|     | 2950  | GORK | 20   | GRF           | 1034.8                     | 1107.0            | 90.00                                                           | 12.0   |      |                 |
|     | 2800  | OTTA | 21   | GRF           | 1320.0                     | 1332.0            | 30.0                                                            | 4.6    | 2.3  |                 |
|     | 2800  | OTTA | 1    | S             | 1328.0                     | 1330.0            | 3.0                                                             | 3.6    | 1.8  |                 |
|     | 2800  | OTTA |      |               | 1435.0                     |                   | 155.0                                                           | 6.0    |      |                 |
|     | 2800  | OTTA | 20   | GRF           | 1718.0                     | 1748.0            | 80.0                                                            | 11.6   | 5.8  |                 |
|     | 2800  | OTTA | 21   | GRF           | 2005.0                     | 2155.0            | 195.0                                                           | 6.6    | 3.6  |                 |
|     | 245   | SGMR | 47   | GB            | 2016.0                     | 2016.6            | 15.5                                                            | 139.0  |      | QL=5 ST=2 TYP=5 |
|     | 15400 | PALE | 47   | GB            | 2016.6                     | 2018.1            | 9.5                                                             | 110.0  |      | QL=6 ST=2 TYP=5 |
|     | 15400 | SGMR | 47   | GB            | 2016.6                     | 2018.1            | 15.7                                                            | 110.0  |      | QL=6 ST=2 TYP=5 |
|     | 8800  | SGMR | 47   | GB            | 2016.6                     | 2018.5            | 16.7                                                            | 160.0  |      | QL=6 ST=2 TYP=5 |
|     | 2800  | OTTA | 4    | S/F           | 2016.3                     | 2018.5            | 8.2                                                             | 360.0  | 80.0 |                 |
|     | 500   | HIRA | 46   | C             | 2017.0                     | 2020.1            | 5.0                                                             | 140.0  | 30.0 | WL              |
|     | 1415  | SGMR | 47   | GB            | 2017.1                     | 2018.3            | 7.9                                                             | 110.0  |      | QL=6 ST=2 TYP=5 |
|     | 2695  | PALE | 47   | GB            | 2017.1                     | 2018.3            | 7.2                                                             | 320.0  |      | QL=6 ST=3 TYP=5 |
|     | 2695  | SGMR | 47   | GB            | 2017.1                     | 2018.3            | 16.2                                                            | 300.0  |      | QL=6 ST=2 TYP=5 |
|     | 4995  | SGMR | 47   | GB            | 2017.1                     | 2018.5            | 16.2                                                            | 150.0  |      | QL=6 ST=2 TYP=5 |
|     | 610   | PALE | 47   | GB            | 2017.1                     | 2018.6            | 4.7                                                             | 290.0  |      | QL=6 ST=2 TYP=5 |
|     | 8800  | PALE | 47   | GB            | 2017.3                     | 2018.3            | 5.0                                                             | 119.0  |      | QL=6 ST=2 TYP=5 |
|     | 1415  | PALE | 47   | GB            | 2017.3                     | 2018.3            | 5.2                                                             | 110.0  |      | QL=6 ST=2 TYP=5 |
|     | 610   | SGMR | 47   | GB            | 2017.3                     | 2018.8            | 4.7                                                             | 180.0  |      | QL=6 ST=2 TYP=5 |
|     | 410   | PALE | 47   | GB            | 2017.5                     | 2018.1            | 3.5                                                             | 100.0  |      | QL=6 ST=2 TYP=5 |
|     | 4995  | PALE | 47   | GB            | 2017.5                     | 2018.3            | 5.5                                                             | 93.0   |      | QL=6 ST=2 TYP=5 |
|     | 410   | SGMR | 47   | GB            | 2017.6                     | 2018.1            | 3.9                                                             | 91.0   |      | QL=6 ST=2 TYP=5 |
|     | 2800  | OTTA | 29   | PBI           | 2025.0                     | 2025.0            | 25.0                                                            | 19.0   | 6.4  |                 |
|     | 3750  | TYKW | 20   | GRF           | 2140.0                     | 2150.0            | 90.0                                                            | 4.0    | 2.0  |                 |
|     | 17000 | NOBE | 1    | S             | 2155.4                     | 2155.8            | 4.0                                                             | 47.0   |      | 0               |
|     | 15400 | SGMR | 47   | GB            | 2155.5                     | 2155.8            | 8.6                                                             | 64.0   |      | QL=6 ST=2 TYP=5 |
|     | 15400 | PALE | 8    | S             | 2155.6                     | 2155.6            | .5                                                              | 43.0   |      | QL=6 ST=2 TYP=3 |
|     | 1000  | TYKW | 5    | S             | 2315.3                     | 2315.4            | 0.5                                                             | 4.0    | 1.0  |                 |
|     | 245   | LEAR | 47   | GB            | 2315.3E                    | 2315.6            | 2.00                                                            | 53.0   |      | QL=5 ST=2 TYP=5 |
|     | 3750  | TYKW | 5    | S             | 2333.0                     | 2340.0            | 20.0                                                            | 2.0    | 1.0  |                 |
|     | 17000 | NOBE | 20   | GRF           | 2358.4                     | 2415.5            | 65.0                                                            | 41.0   |      |                 |
| 29  | 100   | GORK | 44   | NS            | 0330.0E                    |                   | 360.00                                                          |        | 20.0 |                 |
|     | 200   | GORK | 44   | NS            | 0334.0E                    |                   | 346.00                                                          |        | 5.0  |                 |
|     | 33    | UPIC | 44   | NS            | 0500.0E                    |                   | 720.00                                                          |        |      |                 |
|     | 29    | UPIC | 44   | NS            | 0500.0E                    |                   | 720.00                                                          |        |      |                 |
|     | 410   | LEAR | 43   | NS            | 0530.0                     | 0620.0            | 253.00                                                          | 42.0   |      | QL=6 ST=2 TYP=1 |
|     | 204   | IZMI | 44   | NS            | 0600.0E                    |                   | 360.00                                                          | 70.0   |      |                 |
|     | 260   | ONDR | 44   | NS            | 0652.0E                    |                   | 474.00                                                          | 124.00 |      |                 |
|     | 127   | TORN | 43   | NS            | 0658.0                     | 0745.3            | 482.0                                                           | 260.0  | 20.0 | V=1             |
|     | 245   | SGMR | 43   | NS            | 1002.0                     | 1110.3            | 797.00                                                          | 380.0  |      | QL=5 ST=2 TYP=1 |
|     | 410   | SGMR | 43   | NS            | 1456.5                     | 1832.3            | 502.50                                                          | 230.0  |      | QL=6 ST=2 TYP=1 |
|     | 245   | PALE | 44   | NS            | 1637.0E                    | 1714.3            |                                                                 | 150.0  |      | QL=6 ST=1 TYP=1 |
|     | 100   | HIRA | 44   | NS            | 1945.0E                    | 2025.0            | 810.00                                                          | 230.0  | 15.0 | ML              |
|     | 200   | HIRA | 44   | NS            | 1945.0E                    | 2210.0            | 810.00                                                          | 65.0   | 25.0 | ML              |
|     | 208   | VORO | 44   | NS            | 2200.0E                    |                   | 360.00                                                          |        | 27.0 |                 |
|     | 3750  | TYKW | 21   | GRF           | 0004.0                     | 0118.0            | 180.0                                                           | 6.0    | 3.0  |                 |
|     | 2000  | TYKW | 45   | C             | 0010.0                     | 0010.3            | 2.0                                                             | 5.0    | 1.5  |                 |
|     | 3750  | TYKW | 45   | C             | 0010.0                     | 0010.3            | 2.0                                                             | 11.0   | 5.0  |                 |
|     | 9400  | TYKW | 28   | PRE           | 0010.0                     | 0010.6            | 3.0                                                             | 5.0    | 3.0  |                 |
|     | 2695  | PENT | 45   | C             | 0010.0                     | 0015.1            | 8.0                                                             | 21.0   | 7.0  |                 |
|     | 4995  | LEAR | 4    | S/F           | 0010.1                     | 0015.3            | 6.5                                                             | 38.0   |      | QL=5 ST=2 TYP=3 |
|     | 2695  | LEAR | 4    | S/F           | 0010.3                     | 0015.3            | 5.3                                                             | 20.0   |      | QL=5 ST=2 TYP=3 |
|     | 3750  | TYKW | 30   | PBI           | 0012.0                     |                   | 30.0                                                            | 2.0    | 1.0  |                 |
|     | 2000  | TYKW | 30   | PBI           | 0012.0                     |                   | 30.0                                                            | 1.0    | 0.5  |                 |
|     | 2000  | TYKW | 45   | C             | 0012.5                     | 0014.7            | 5.5                                                             | 6.0    | 2.0  |                 |
|     | 3750  | TYKW | 45   | C             | 0013.0                     | 0015.3            | 8.0                                                             | 32.0   | 10.0 |                 |
|     | 9400  | TYKW | 5    | S             | 0013.0                     | 0015.4            | 8.0                                                             | 35.0   | 13.0 |                 |
|     | 35000 | NOBE | 20   | GRF           | 0013.7                     | 0015.5            | 6.0                                                             | 25.0   |      | 0               |
|     | 8800  | PALE | 4    | S/F           | 0014.0                     | 0014.8            | 3.1                                                             | 41.0   |      | QL=6 ST=2 TYP=3 |
|     | 4995  | PALE | 4    | S/F           | 0014.0                     | 0015.1            | 2.3                                                             | 34.0   |      | QL=6 ST=2 TYP=3 |
|     | 2695  | PALE | 8    | S             | 0014.3                     | 0015.1            | .8                                                              | 16.0   |      | QL=6 ST=2 TYP=3 |
|     | 15400 | PALE | 4    | S/F           | 0014.6                     | 0015.3            | 3.0                                                             | 37.0   |      | QL=6 ST=2 TYP=3 |
|     | 8800  | LEAR | 4    | S/F           | 0015.1                     | 0015.1            | 2.2                                                             | 30.0   |      | QL=5 ST=2 TYP=3 |
|     | 15400 | LEAR | 4    | S/F           | 0015.1                     | 0016.1            | 9.4                                                             | 35.0   |      | QL=5 ST=2 TYP=3 |
|     | 9400  | TYKW | 29   | PBI           | 0021.0                     |                   | 15.0                                                            | 4.0    | 1.5  |                 |
|     | 17000 | NOBE | 21   | GRF           | 0110.9                     |                   | 307.00                                                          |        |      |                 |
|     | 9400  | TYKW | 45   | C             | 0132.0                     | 0136.0            | 11.0                                                            | 4.0    | 1.5  |                 |



48  
Apr 84

# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

APRIL 1984

| Day | Freq  | Sta  | Type   | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density Peak (10 <sup>-22</sup> W/m <sup>2</sup> Hz) | Mean | Int | Remarks         |
|-----|-------|------|--------|------------|----------------------|----------------|-----------------------------------------------------------|------|-----|-----------------|
| 29  | 410   | LEAR | 8 S    | 0137.6     | 0137.6               | .2             | 10.0                                                      |      |     | QL=6 ST=2 TYP=3 |
|     | 2000  | TYKW | 45 C   | 0147.0     | 0147.3               | 2.0            | 1.5                                                       | 0.5  |     |                 |
|     | 610   | LEAR | 8 S    | 0147.3     | 0147.5               | .3             | 13.0                                                      |      |     | QL=6 ST=2 TYP=3 |
|     | 410   | PALE | 8 S    | 0151.6     | 0151.6               | .4             | 47.0                                                      |      |     | QL=6 ST=2 TYP=3 |
|     | 2000  | TYKW | 8 S    | 0151.7     | 0151.8               | 0.2            | 6.0                                                       | 1.5  |     |                 |
|     | 410   | LEAR | 8 S    | 0151.8     | 0151.8               | .3             | 45.0                                                      |      |     | QL=6 ST=2 TYP=3 |
|     | 9400  | TYKW | 5 S    | 0155.0     | 0159.5               | 25.0           | 7.0                                                       | 2.5  |     |                 |
|     | 2000  | TYKW | 45 C   | 0155.5     | 0155.8               | 1.5            | 26.0                                                      | 3.0  |     |                 |
|     | 610   | LEAR | 8 S    | 0155.6     | 0155.8               | .2             | 21.0                                                      |      |     | QL=6 ST=2 TYP=3 |
|     | 1415  | LEAR | 8 S    | 0155.6     | 0155.8               | .5             | 16.0                                                      |      |     | QL=6 ST=2 TYP=3 |
|     | 410   | LEAR | 8 S    | 0155.6     | 0155.8               | .5             | 11.0                                                      |      |     | QL=6 ST=2 TYP=3 |
|     | 245   | LEAR | 8 S    | 0155.6E    | 0155.8               | .20            | 11.0                                                      |      |     | QL=6 ST=2 TYP=3 |
|     | 17000 | NOBE | 1 S    | 0207.4     | 0217.2               | 12.0           | 26.0                                                      |      |     | L               |
|     | 2000  | TYKW | 20 GRF | 0230.0     | 0239.0               | 30.0           | 1.5                                                       | 0.7  |     |                 |
|     | 17000 | NOBE | 1 S    | 0244.5     | 0249.8               | 11.0           | 90.0                                                      |      |     | L               |
|     | 35000 | NOBE | 1 S    | 0244.5     | 0249.8               | 6.0            | 175.0                                                     |      |     | L               |
|     | 80000 | NOBE | 1 S    | 0249.4     | 0249.8               | 1.0            | 35.0                                                      |      |     |                 |
|     | 15400 | PALE | 47 GB  | 0249.5     | 0249.6               | .5             | 52.0                                                      |      |     | QL=6 ST=2 TYP=5 |
|     | 9400  | TYKW | 5 S    | 0322.7     | 0323.2               | 1.5            | 9.0                                                       | 3.0  |     |                 |
|     | 17000 | NOBE | 1 S    | 0322.8     | 0324.8               | 3.5            | 11.0                                                      |      |     | O               |
|     | 17000 | NOBE | 1 S    | 0340.4     | 0340.8               | 1.0            | 12.0                                                      |      |     | O               |
|     | 35000 | NOBE | 1 S    | 0351.9     | 0352.1               | .5             | 37.0                                                      |      |     | L               |
|     | 17000 | NOBE | 1 S    | 0351.9     | 0352.1               | 2.0            | 16.0                                                      |      |     | L               |
|     | 9400  | TYKW | 45 C   | 0409.5     | 0409.9               | 4.5            | 12.0                                                      | 2.0  |     |                 |
|     | 9100  | GORK | 21 GRF | 0409.5     | 0412.0               | 10.1           | 7.0                                                       |      |     |                 |
|     | 9100  | GORK | 1 S    | 0409.6     | 0409.9               | .7             | 8.0                                                       | 4.0  |     |                 |
|     | 17000 | NOBE | 1 S    | 0409.7     | 0412.2               | 5.0            | 15.0                                                      |      |     | L               |
|     | 9400  | TYKW | 5 S    | 0432.0     | 0435.0               | 15.0           | 4.0                                                       | 1.5  |     |                 |
|     | 9100  | GORK | 1 S    | 0434.2     | 0434.4               | 3.2            | 3.5                                                       | 2.0  |     |                 |
|     | 3750  | TYKW | 20 GRF | 0440.0     | 0515.0               | 75.0           | 2.0                                                       | 1.0  |     |                 |
|     | 35000 | NOBE | 1 S    | 0451.7     | 0451.9               | .3             | 94.0                                                      |      |     | L               |
|     | 17000 | NOBE | 1 S    | 0451.7     | 0451.9               | .5             | 42.0                                                      |      |     | L               |
|     | 9400  | TYKW | 20 GRF | 0505.0     | 0515.0               | 30.0           | 4.0                                                       | 2.0  |     |                 |
|     | 9400  | TYKW | 28 PRE | 0540.0     | 0620.0               | 40.0           | 4.0                                                       | 2.0  |     |                 |
|     | 9100  | GORK | 21 GRF | 0609.0     | 0720.3               | 200.00         | 48.0                                                      |      |     |                 |
|     | 3750  | TYKW | 45 C   | 0610.0     | 0644.3               | 100.0          | 41.0                                                      | 22.0 |     |                 |
|     | 2000  | TYKW | 45 C   | 0610.0     | 0702.5               | 100.0          | 40.0                                                      | 15.0 |     |                 |
|     | 3750  | TYKW |        | 0610.0     | 0719.2               |                | 40.0                                                      |      |     |                 |
|     | 2840  | PEKG | 28 PRE | 0612.0     | 0639.2               | 29.5           | 29.7                                                      | 10.8 |     |                 |
|     | 9395  | PEKG | 21 GRF | 0612.0     | 0719.2               | 98.00          | 43.3                                                      |      |     |                 |
|     | 2950  | GORK | 21 GRF | 0614.3     | 0721.0               | 196.00         | 30.0                                                      |      |     |                 |
|     | 9400  | TYKW | 5 S    | 0615.0     | 0615.7               | 3.0            | 3.0                                                       | 1.0  |     |                 |
|     | 9400  | TYKW |        | 0620.0     | 0644.2               |                | 40.0                                                      |      |     |                 |
|     | 9400  | TYKW | 45 C   | 0620.0     | 0720.0               | 90.0           | 45.0                                                      | 28.0 |     |                 |
|     | 3100  | BERN | 21 GRF | 0620.00    | 0644.3               | 180.00         | 33.0                                                      |      |     |                 |
|     | 5200  | BERN | 21 GRF | 0620.00    | 0644.3               | 180.00         | 51.0                                                      |      |     |                 |
|     | 8400  | BERN | 21 GRF | 0620.00    | 0901.9               | 180.00         | 111.0                                                     |      |     |                 |
|     | 11800 | BERN | 21 GRF | 0620.00    | 0902.0               | 180.00         | 261.0                                                     |      |     |                 |
|     | 1000  | TYKW | 8 S    | 0625.6     | 0625.7               | 0.5            | 3.5                                                       | 1.0  |     |                 |
|     | 1000  | TYKW | 5 S    | 0626.3     | 0626.6               | 0.6            | 1.5                                                       | 0.3  |     |                 |
|     | 2902  | YUNN | 20 GRF | 0627.0     | 0702.1               | 153.0          | 47.0                                                      |      |     |                 |
|     | 1000  | TYKW | 45 C   | 0627.5     | 0628.3               | 1.5            | 30.0                                                      | 6.0  |     |                 |
|     | 650   | GORK | 28 PRE | 0627.7     | 0628.1               | .9             | 3.5                                                       | 1.5  |     |                 |
|     | 950   | GORK | 28 PRE | 0627.7     | 0628.2               | 1.1            | 24.0                                                      |      |     |                 |
|     | 650   | GORK | 23 GRF | 0629.5     | 0722.0               | 106.30         | 4.5                                                       |      |     |                 |
|     | 1000  | TYKW | 45 C   | 0636.0     | 0644.6               | 44.0           | 270.0                                                     | 12.0 |     |                 |
|     | 650   | GORK | 46 C   | 0636.0     | 0638.2               | 5.2            | 72.0                                                      |      |     |                 |
|     | 650   | GORK |        | 0636.0     | 0640.0               |                | 34.0                                                      |      |     |                 |
|     | 950   | GORK | 46 C   | 0636.0     | 0640.0               | 45.00          | 142.0                                                     |      |     |                 |
|     | 950   | GORK |        | 0636.0     | 0644.0               |                | 230.0                                                     |      |     |                 |
|     | 950   | GORK |        | 0636.0     | 0647.0               |                | 160.0                                                     |      |     |                 |
|     | 610   | LEAR | 47 GB  | 0637.1     | 0638.3               | 4.0            | 130.0                                                     |      |     | QL=6 ST=3 TYP=5 |
|     | 2695  | LEAR | 20 GRF | 0637.1     | 0639.5               | 3.5            | 28.0                                                      |      |     | QL=6 ST=3 TYP=2 |
|     | 8800  | LEAR | 8 S    | 0637.8     | 0638.1               | .3             | 30.0                                                      |      |     | QL=6 ST=3 TYP=3 |
|     | 1415  | LEAR | 8 S    | 0638.0     | 0639.8               | 2.0            | 26.0                                                      |      |     | QL=6 ST=3 TYP=3 |
|     | 650   | GORK | 46 C   | 0641.5     | 0644.0               | 5.8            | 35.0                                                      |      |     |                 |
|     | 2840  | PEKG | 45 C   | 0641.5     | 0644.3               | 25.5           | 43.4                                                      |      |     |                 |
|     | 650   | GORK |        | 0641.5     | 0644.8               |                | 39.0                                                      |      |     |                 |
|     | 2840  | PEKG |        | 0641.5     | 0702.4               |                | 61.5                                                      | 38.6 |     |                 |
|     | 15400 | LEAR | 8 S    | 0643.0     | 0644.1               | 2.0            | 18.0                                                      |      |     | QL=5 ST=2 TYP=3 |
|     | 410   | LEAR | 8 S    | 0643.1     | 0644.6               | 2.0            | 19.0                                                      |      |     | QL=6 ST=2 TYP=3 |

# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

49  
Apr 84

APRIL 1984

| Day | Freq  | Sta  | Type   | Start<br>(UT) | Time of<br>Maximum<br>(UT) | Duration<br>(Min) | Flux Density                                    |                               | Int | Remarks         |
|-----|-------|------|--------|---------------|----------------------------|-------------------|-------------------------------------------------|-------------------------------|-----|-----------------|
|     |       |      |        |               |                            |                   | Peak<br>(10 <sup>-22</sup> W/m <sup>2</sup> Hz) | Mean<br>(W/m <sup>2</sup> Hz) |     |                 |
| 29  | 1415  | ATHN | 4 S/F  | 0643.3        | 0643.6                     | 3.7               | 15.0                                            |                               |     | QL=6 ST=2 TYP=3 |
|     | 610   | LEAR | 4 S/F  | 0643.3        | 0644.6                     | 2.2               | 35.0                                            |                               |     | QL=6 ST=2 TYP=3 |
|     | 1415  | LEAR | 8 S    | 0643.6        | 0643.6                     | .4                | 31.0                                            |                               |     | QL=6 ST=2 TYP=3 |
|     | 2695  | ATHN | 4 S/F  | 0643.6        | 0644.3                     | 3.4               | 7.0                                             |                               |     | QL=6 ST=2 TYP=3 |
|     | 2695  | LEAR | 4 S/F  | 0643.6        | 0644.3                     | 3.0               | 42.0                                            |                               |     | QL=6 ST=2 TYP=3 |
|     | 8800  | ATHN | 8 S    | 0643.6        | 0644.3                     | 1.5               | 32.0                                            |                               |     | QL=6 ST=2 TYP=3 |
|     | 9395  | PEKG | 3 S    | 0643.6        | 0644.3                     | 1.4               | 15.5                                            | 7.8                           |     |                 |
|     | 9100  | GORK | 1 S    | 0643.8        | 0644.2                     | 2.1               | 23.0                                            | 7.0                           |     |                 |
|     | 4995  | ATHN | 4 S/F  | 0643.8        | 0644.3                     | 3.0               | 32.0                                            |                               |     | QL=6 ST=2 TYP=3 |
|     | 2950  | GORK | 1 S    | 0643.9        | 0644.2                     | 2.0               | 9.9                                             | 4.5                           |     |                 |
|     | 4995  | LEAR | 47 GB  | 0644.0        | 0644.3                     | 1.1               | 56.0                                            |                               |     | QL=6 ST=2 TYP=5 |
|     | 8800  | LEAR | 47 GB  | 0644.1        | 0644.3                     | .7                | 54.0                                            |                               |     | QL=6 ST=2 TYP=5 |
|     | 650   | GORK | 41 F   | 0649.1        | 0653.4                     | 50.4              | 17.0                                            |                               |     |                 |
|     | 650   | GORK |        | 0649.1        | 0711.7                     |                   | 19.0                                            |                               |     |                 |
|     | 650   | GORK |        | 0649.1        | 0714.2                     |                   | 25.0                                            |                               |     |                 |
|     | 650   | GORK |        | 0649.1        | 0716.5                     |                   | 43.0                                            |                               |     |                 |
|     | 1470  | POTS | 21 GRF | 0650.0        | 0702.5                     | 85.0              | 10.0                                            |                               |     |                 |
|     | 3000  | POTS | 21 GRF | 0650.0        | 0702.5                     | 90.0              | 18.0                                            |                               |     |                 |
|     | 9500  | POTS | 20 GRF | 0650.0        | 0720.0                     | 85.0              | 20.0                                            |                               |     |                 |
|     | 410   | LEAR | 4 S/F  | 0650.8        | 0651.8                     | 2.3               | 35.0                                            |                               |     | QL=6 ST=2 TYP=3 |
|     | 2695  | LEAR | 4 S/F  | 0700.8        | 0702.1                     | 2.3               | 37.0                                            |                               |     | QL=6 ST=2 TYP=3 |
|     | 4995  | LEAR | 8 S    | 0700.8        | 0702.1                     | 1.5               | 25.0                                            |                               |     | QL=6 ST=2 TYP=3 |
|     | 2950  | GORK | 1 S    | 0701.5        | 0702.3                     | 1.9               | 6.6                                             | 3.3                           |     |                 |
|     | 2840  | PEKG | 29 PBI | 0707.0        |                            | 41.00             | 44.5                                            |                               |     |                 |
|     | 536   | ONDR | 40 F   | 0710.0        | 0717.0                     | 10.0              | 19.0                                            |                               |     |                 |
|     | 610   | LEAR | 47 GB  | 0714.1        | 0716.5                     | 2.7               | 54.0                                            |                               |     | QL=6 ST=2 TYP=5 |
|     | 1000  | TYKW | 29 PBI | 0720.0        |                            | 90.0              | 5.0                                             | 2.5                           |     |                 |
|     | 17000 | NOBE | 1 S    | 0724.1        | 0724.3                     | 2.5               | 23.0                                            |                               |     | 0               |
|     | 17000 | NOBE | 1 S    | 0731.8        | 0732.2                     | 2.5               | 35.0                                            |                               |     | 0               |
|     | 35000 | NOBE | 1 S    | 0732.0        | 0732.2                     | .8                | 190.0                                           |                               |     | L               |
|     | 9400  | TYKW | 29 PBI | 0750.0        |                            | 60.00             | 33.0                                            | 28.00                         |     |                 |
|     | 2000  | TYKW | 29 PBI | 0750.0        |                            | 80.00             | 14.0                                            | 11.00                         |     |                 |
|     | 3750  | TYKW | 30 PBI | 0750.0        |                            | 70.0              | 20.0                                            | 10.0                          |     |                 |
|     | 3750  | TYKW | 45 C   | 0841.5        | 0843.3                     | 7.0               | 21.0                                            | 7.0                           |     |                 |
|     | 9100  | GORK | 1 S    | 0842.0        | 0843.2                     | 2.5               | 8.0                                             | 3.0                           |     |                 |
|     | 2950  | GORK | 1 S    | 0842.3        | 0843.2                     | 1.7               | 4.9                                             | 2.4                           |     |                 |
|     | 9100  | GORK | 1 S    | 0856.3        | 0857.1                     | 2.1               | 16.0                                            | 6.0                           |     |                 |
|     | 9500  | POTS | 42 SER | 0856.5        | 0902.0                     | 11.0              | 105.0                                           |                               |     |                 |
|     | 33    | UPIC | 48 C   | 0857.1        | 0905.8U                    | 10.6              |                                                 |                               |     |                 |
|     | 9100  | GORK | 3 S    | 0900.0U       | 0902.2                     | 2.6U              | 50.0                                            | 13.0                          |     |                 |
|     | 8800  | ATHN | 47 GB  | 0901.6        | 0902.0                     | 2.2               | 72.0                                            |                               |     | QL=6 ST=2 TYP=5 |
|     | 4995  | ATHN | 4 S/F  | 0901.6        | 0902.0                     | 2.2               | 24.0                                            |                               |     | QL=6 ST=2 TYP=3 |
|     | 536   | ONDR | 40 F   | 0910.0        | 0914.0                     | 6.0               | 9.0                                             |                               |     |                 |
|     | 808   | ONDR | 1 S    | 0941.7        | 0942.5                     | 1.2               | 27.0                                            |                               |     |                 |
|     | 234   | POTS | 42 SER | 1110.0        | 1110.4                     | 10.0              | 1200.0                                          | 20.0                          |     |                 |
|     | 113   | POTS | 42 SER | 1121.0        | 1123.0                     | 9.0               | 1000.0                                          | 30.0                          |     | !!!             |
|     | 234   | POTS | 41 F   | 1128.5        | 1129.4                     | 4.9               | 330.0                                           | 3.0                           |     | !!!             |
|     | 2800  | OTTA | 20 GRF | 1205.0        | 1220.0                     | 40.0              | 5.6                                             | 1.9                           |     |                 |
|     | 536   | ONDR | 40 F   | 1232.0        | 1232.5                     | 1.5               | 27.0                                            |                               |     |                 |
|     | 9500  | POTS | 3 S    | 1232.5        | 1233.5                     | 3.5               | 49.0                                            |                               |     |                 |
|     | 19600 | BERN | 3 S    | 1233.0        | 1233.5                     | 5.0               | 55.0                                            |                               |     |                 |
|     | 8400  | BERN | 3 S    | 1233.0        | 1233.5                     | 5.0               | 25.0                                            |                               |     |                 |
|     | 11800 | BERN | 3 S    | 1233.0        | 1233.5                     | 5.0               | 70.0                                            |                               |     |                 |
|     | 15400 | SGMR | 47 GB  | 1233.1        | 1233.3                     | 1.7               | 81.0                                            |                               |     | QL=6 ST=2 TYP=5 |
|     | 8800  | SGMR | 8 S    | 1233.1        | 1233.6                     | 1.0               | 34.0                                            |                               |     | QL=6 ST=2 TYP=3 |
|     | 8800  | ATHN | 8 S    | 1233.1        | 1233.6                     | 2.0               | 44.0                                            |                               |     | QL=6 ST=2 TYP=3 |
|     | 4995  | ATHN | 8 S    | 1233.1        | 1234.0                     | 2.0               | 5.0                                             |                               |     | QL=6 ST=2 TYP=3 |
|     | 2800  | OTTA | 21 GRF | 1335.0        | 1530.0                     | 480.0             | 10.6                                            | 5.3                           |     |                 |
|     | 536   | ONDR | 27 RF  | 1350.0        | 1427.0U                    | 60.00             | 25.0                                            |                               |     |                 |
|     | 2800  | OTTA | 1 S    | 1400.0        | 1403.0                     | 5.0               | 4.6                                             | 2.3                           |     |                 |
|     | 245   | SGMR | 47 GB  | 1421.3        | 1422.0                     | 1.2               | 139.0                                           |                               |     | QL=6 ST=2 TYP=5 |
|     | 410   | SGMR | 8 S    | 1421.3        | 1422.3                     | 1.2               | 13.0                                            |                               |     | QL=6 ST=2 TYP=3 |
|     | 2800  | OTTA | 3 S    | 1432.0        | 1435.0                     | 6.0               | 30.0                                            | 7.8                           |     |                 |
|     | 4995  | ATHN | 47 GB  | 1432.3        | 1433.5                     | 6.5               | 150.0                                           |                               |     | QL=6 ST=2 TYP=5 |
|     | 8800  | ATHN | 47 GB  | 1432.5        | 1433.5                     | 6.1               | 84.0                                            |                               |     | QL=6 ST=2 TYP=5 |
|     | 8800  | SGMR | 47 GB  | 1432.6        | 1433.5                     | 2.0               | 91.0                                            |                               |     | QL=6 ST=2 TYP=5 |
|     | 19600 | BERN | 3 S    | 1433.0        | 1433.3U                    | 4.0U              | 14.0                                            |                               |     |                 |
|     | 8400  | BERN | 3 S    | 1433.0        | 1433.5                     | 4.0               | 100.0                                           |                               |     |                 |
|     | 5200  | BERN | 3 S    | 1433.0        | 1433.5                     | 4.0               | 1115.0                                          |                               |     |                 |
|     | 245   | SGMR | 47 GB  | 1433.0        | 1433.5                     | 1.0               | 95.0                                            |                               |     | QL=6 ST=2 TYP=5 |
|     | 4995  | SGMR | 47 GB  | 1433.0        | 1433.5                     | 1.5               | 88.0                                            |                               |     | QL=6 ST=2 TYP=5 |

50  
Apr 84

# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

APRIL 1984

| Day | Freq  | Sta  | Type   | Start<br>(UT) | Time of<br>Maximum<br>(UT) | Duration<br>(Min) | Flux Density<br>Peak<br>(10 <sup>-22</sup> W/m <sup>2</sup> Hz) | Mean | Int | Remarks         |
|-----|-------|------|--------|---------------|----------------------------|-------------------|-----------------------------------------------------------------|------|-----|-----------------|
| 29  | 11800 | BERN | 3 S    | 1433.0        | 1433.5                     | 4.0               | 56.0                                                            |      |     |                 |
|     | 3100  | BERN | 3 S    | 1433.0        | 1433.6                     | 4.0               | 1200.0                                                          |      |     |                 |
|     | 2695  | ATHN | 4 S/F  | 1433.0        | 1433.6                     | 3.6               | 32.0                                                            |      |     | QL=6 ST=2 TYP=3 |
|     | 2695  | SGMR | 8 S    | 1433.1        | 1433.6                     | .9                | 24.0                                                            |      |     | QL=6 ST=2 TYP=3 |
|     | 15400 | SGMR | 8 S    | 1433.3        | 1433.5                     | .5                | 25.0                                                            |      |     | QL=6 ST=2 TYP=3 |
|     | 808   | ONDR | 1 S    | 1437.0        | 1437.5                     | 1.0               | 21.0                                                            |      |     |                 |
|     | 2800  | OTTA | 20 GRF | 1710.0        | 1735.0                     | 40.0              | 4.6                                                             | 2.3  |     |                 |
|     | 2800  | OTTA | 2 S/F  | 1754.0        | 1755.0                     | 2.0               | 7.2                                                             | 2.4  |     |                 |
|     | 4995  | PALE | 8 S    | 1754.8        | 1754.8                     | .3                | 18.0                                                            |      |     | QL=6 ST=2 TYP=3 |
|     | 8800  | PALE | 8 S    | 1754.8        | 1754.8                     | .3                | 38.0                                                            |      |     | QL=6 ST=2 TYP=3 |
|     | 2800  | OTTA | 8 S    | 1758.5        | 1758.5                     | .1                | 3.6                                                             |      |     |                 |
|     | 2800  | OTTA | 20 GRF | 1825.0        | 1900.0                     | 135.0             | 4.0                                                             | 3.0  |     |                 |
|     | 8800  | PALE | 8 S    | 1826.3        | 1826.5                     | 1.8               | 26.0                                                            |      |     | QL=6 ST=2 TYP=3 |
|     | 410   | PALE | 47 GB  | 1832.1        | 1832.3                     | .5                | 189.0                                                           |      |     | QL=6 ST=2 TYP=5 |
|     | 8800  | PALE | 8 S    | 1852.6        | 1853.3                     | 1.5               | 30.0                                                            |      |     | QL=6 ST=2 TYP=3 |
|     | 15400 | PALE | 4 S/F  | 1852.6        | 1853.3                     | 2.9               | 44.0                                                            |      |     | QL=6 ST=2 TYP=3 |
|     | 8800  | SGMR | 4 S/F  | 1852.6        | 1853.5                     | 4.5               | 21.0                                                            |      |     | QL=6 ST=2 TYP=3 |
|     | 15400 | SGMR | 4 S/F  | 1852.6        | 1853.5                     | 4.5               | 38.0                                                            |      |     | QL=6 ST=2 TYP=3 |
|     | 410   | PALE | 47 GB  | 1942.0        | 1942.5                     | 5.1               | 69.0                                                            |      |     | QL=6 ST=2 TYP=5 |
|     | 2695  | PENT | 21 GRF | 2240.0        | 2355.0                     | 155.0             | 8.2                                                             | 4.0  |     |                 |
|     | 3750  | TYKW | 21 GRF | 2310.0        | 2351.0                     | 100.0             | 10.0                                                            | 5.0  |     |                 |
|     | 3750  | TYKW | 5 S    | 2312.0        | 2313.2                     | 2.0               | 6.0                                                             | 1.5  |     |                 |
|     | 9400  | TYKW | 45 C   | 2312.0        | 2318.7                     | 15.0              | 23.0                                                            | 6.0  |     |                 |
|     | 3750  | TYKW | 45 C   | 2315.0        | 2318.7                     | 7.0               | 23.0                                                            | 8.0  |     |                 |
|     | 2000  | TYKW | 21 GRF | 2315.0        | 2351.0                     | 95.0              | 4.0                                                             | 2.0  |     |                 |
|     | 1000  | TYKW | 45 C   | 2316.0        | 2318.7                     | 5.0               | 3.0                                                             | 1.0  |     |                 |
|     | 2695  | PENT | 4 S/F  | 2316.0        | 2320.0                     | 7.0               | 13.8                                                            | 6.0  |     |                 |
|     | 2000  | TYKW | 45 C   | 2316.0        | 2320.1                     | 7.0               | 9.0                                                             | 3.0  |     |                 |
|     | 2695  | PALE | 4 S/F  | 2318.1        | 2319.8                     | 2.2               | 21.0                                                            |      |     | QL=6 ST=2 TYP=3 |
|     | 3750  | TYKW | 29 PBI | 2322.0        |                            | 12.0              | 2.0                                                             | 1.0  |     |                 |
|     | 9400  | TYKW | 30 PBI | 2327.0        |                            | 60.0              | 4.0                                                             | 2.0  |     |                 |
|     | 9400  | TYKW | 20 GRF | 2349.0        | 2352.0                     | 35.0              | 4.0                                                             | 2.0  |     |                 |
| 30  | 100   | GORK | 44 NS  | 0333.0E       |                            | 427.0D            |                                                                 | 10.0 |     |                 |
|     | 200   | GORK | 44 NS  | 0336.0E       |                            | 426.0D            |                                                                 | 5.0  |     |                 |
|     | 33    | UPIC | 43 NS  | 0518.6        |                            | 701.4D            |                                                                 |      |     |                 |
|     | 29    | UPIC | 43 NS  | 0518.7        |                            | 701.3D            |                                                                 |      |     |                 |
|     | 204   | IZMI | 44 NS  | 0600.0E       |                            | 360.0D            | 15.0                                                            |      |     |                 |
|     | 260   | ONDR | 44 NS  | 0640.0E       |                            | 453.0D            | 38.0                                                            |      |     |                 |
|     | 127   | TORN | 43 NS  | 0702.0        | 0744.1                     | 478.0             | 60.0                                                            | 30.0 |     | V=1             |
|     | 245   | PALE | 43 NS  | 1640.0        | 2002.0                     | 682.0D            | 76.0                                                            |      |     | QL=6 ST=2 TYP=1 |
|     | 100   | HIRA | 44 NS  | 1945.0E       |                            | 815.0D            |                                                                 |      |     |                 |
|     | 200   | HIRA | 44 NS  | 1945.0E       | 0200.0                     | 815.0D            | 38.0                                                            | 16.0 |     | ML              |
|     | 208   | VORO | 44 NS  | 2100.0E       |                            | 360.0D            |                                                                 | 16.0 |     |                 |
|     | 245   | LEAR | 43 NS  | 2300.0        | 0757.6                     | 642.0D            | 54.0                                                            |      |     | QL=6 ST=2 TYP=1 |
|     | 9400  | TYKW | 5 S    | 0035.0        | 0044.5                     | 15.0              | 9.0                                                             | 3.0  |     |                 |
|     | 3750  | TYKW | 31 ABS | 0050.0        | 0150.0                     | 120.0             | -4.0                                                            | -2.0 |     |                 |
|     | 2000  | TYKW | 31 ABS | 0050.0        | 0155.0                     | 105.0             | -4.0                                                            | -2.0 |     |                 |
|     | 9400  | TYKW | 31 ABS | 0050.0        | 0210.0                     | 270.0             | -12.0                                                           | -6.0 |     |                 |
|     | 3750  | TYKW | 5 S    | 0154.8        | 0155.5                     | 1.5               | 1.5                                                             | 0.5  |     |                 |
|     | 9400  | TYKW | 5 S    | 0215.0        | 0216.5                     | 10.0              | 4.0                                                             | 1.5  |     |                 |
|     | 3750  | TYKW | 45 C   | 0220.0        | 0230.7                     | 23.0              | 5.0                                                             | 2.0  |     |                 |
|     | 2000  | TYKW | 5 S    | 0227.4        | 0227.6                     | 0.6               | 8.0                                                             | 2.0  |     |                 |
|     | 2000  | TYKW | 5 S    | 0230.0        | 0231.0                     | 3.0               | 1.5                                                             | 0.5  |     |                 |
|     | 9400  | TYKW | 5 S    | 0349.5        | 0349.9                     | 1.5               | 9.0                                                             | 3.0  |     |                 |
|     | 9100  | GORK | 21 GRF | 0353.0E       | 0623.8                     | 280.0D            | 30.0                                                            |      |     |                 |
|     | 9400  | TYKW | 5 S    | 0501.0        | 0501.5                     | 1.0               | 4.0                                                             | 1.5  |     |                 |
|     | 3750  | TYKW | 21 GRF | 0506.0        | 0524.0                     | 150.0             | 6.0                                                             | 3.0  |     |                 |
|     | 2950  | GORK | 21 GRF | 0508.5        | 0600.0                     | 94.0              | 8.5                                                             |      |     |                 |
|     | 2000  | TYKW | 21 GRF | 0509.0        | 0522.0                     | 110.0             | 2.0                                                             | 1.0  |     |                 |
|     | 950   | GORK | 1 S    | 0518.0        | 0519.0                     | 4.2               | 3.5                                                             |      |     |                 |
|     | 100   | GORK | 46 C   | 0518.2        | 0518.5                     | 1.9               | 2100.0                                                          |      |     |                 |
|     | 100   | GORK |        | 0518.2        | 0519.3                     |                   | 5300.0                                                          |      |     |                 |
|     | 3750  | TYKW | 45 C   | 0518.6        | 0518.9                     | 1.5               | 12.0                                                            | 4.0  |     |                 |
|     | 2000  | TYKW | 45 C   | 0518.6        | 0519.0                     | 0.8               | 7.0                                                             | 2.5  |     |                 |
|     | 1000  | TYKW | 45 C   | 0518.7        | 0519.0                     | 0.8               | 3.0                                                             | 1.0  |     |                 |
|     | 2950  | GORK | 1 S    | 0518.7        | 0519.0                     | .5                | 11.9                                                            | 5.0  |     |                 |
|     | 200   | GORK | 4 S/F  | 0522.9        | 0523.3                     | .6                | 140.0                                                           |      |     |                 |
|     | 2000  | TYKW | 20 GRF | 0542.0        | 0558.0                     | 110.0             | 4.0                                                             | 2.0  |     |                 |
|     | 3750  | TYKW | 45 C   | 0542.0        | 0605.0                     | 75.0              | 12.0                                                            | 7.0  |     |                 |
|     | 9400  | TYKW | 21 GRF | 0543.0        | 0559.0                     | 110.0             | 18.0                                                            | 9.0  |     |                 |

# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

51  
Apr 84

APRIL 1984

| Day | Freq  | Sta  | Type   | Start<br>(UT) | Time of<br>Maximum<br>(UT) | Duration<br>(Min) | Flux Density                                    |                | Int | Remarks |
|-----|-------|------|--------|---------------|----------------------------|-------------------|-------------------------------------------------|----------------|-----|---------|
|     |       |      |        |               |                            |                   | Peak<br>(10 <sup>-22</sup> W/m <sup>2</sup> Hz) | Mean<br>(2 Hz) |     |         |
| 30  | 9400  | TYKW | 5 S    | 0619.0        | 0626.0                     | 25.0              | 7.0                                             | 4.0            |     |         |
|     | 9100  | GORK | 1 S    | 0736.5        | 0736.6                     | .5                | 8.0                                             | 4.0            |     |         |
|     | 2000  | TYKW | 20 GRF | 0745.0        | 0750.0                     | 50.0              | 1.5                                             | 0.7            |     |         |
|     | 536   | ONDR | 40 F   | 0826.0        |                            | 74.0              | 6.0                                             |                |     |         |
|     | 9100  | GORK | 1 S    | 0941.9        | 0942.1                     | .5                | 9.0                                             | 4.0            |     |         |
|     | 2950  | GORK | 1 S    | 0942.0        | 0942.1                     | .5                | 3.4                                             | 1.7            |     |         |
|     | 9100  | GORK | 1 S    | 0952.2        | 0952.3                     | 1.0               | 19.0                                            | 10.0           |     |         |
|     | 430   | KRAK | 46 C   | 1106.5        | 1108.0                     | 4.0               | 350.0                                           |                |     |         |
|     | 9500  | POTS | 45 C   | 1120.0        | 1153.5                     | 155.0             | 111.0                                           |                |     |         |
|     | 1470  | POTS | 45 C   | 1125.0        | 1154.2                     | 130.0             | 103.0                                           |                |     |         |
|     | 2800  | OTTA | 21 GRF | 1125.0        | 1205.0                     | 235.0             | 22.6                                            | 7.6            |     |         |
|     | 3000  | POTS | 45 C   | 1126.0        | 1153.5                     | 157.0             | 110.0                                           |                |     |         |
|     | 536   | ONDR | 40 F   | 1127.0        |                            | 3.0               | 7.0                                             |                |     |         |
|     | 810   | KRAK | 41 F   | 1127.0        | 1127.5                     | 2.0               | 28.0                                            |                |     |         |
|     | 808   | ONDR | 4 S/F  | 1127.0        | 1128.0                     | 2.0               | 54.0                                            |                |     |         |
|     | 11800 | BERN | 3 S    | 1135.0        | 1152.6                     | 80.00             | 88.0                                            |                |     |         |
|     | 19600 | BERN | 3 S    | 1135.0        | 1153.1                     | 80.00             | 71.0                                            |                |     |         |
|     | 5200  | BERN | 3 S    | 1135.0        | 1153.6                     | 80.00             | 126.0                                           |                |     |         |
|     | 8400  | BERN | 3 S    | 1135.0        | 1153.6                     | 80.00             | 125.0                                           |                |     |         |
|     | 3100  | BERN | 3 S    | 1135.0        | 1153.6                     | 80.00             | 168.0                                           |                |     |         |
|     | 2800  | OTTA | 3 S    | 1150.0        | 1153.6                     | 11.0              | 125.0                                           | 39.4           |     |         |
|     | 808   | ONDR | 46 C   | 1150.0        |                            | 10.0              |                                                 | 96.0           |     |         |
|     | 808   | ONDR |        | 1150.0        | 1152.5                     |                   | 149.0                                           |                |     |         |
|     | 808   | ONDR |        | 1150.0        | 1155.0                     |                   | 139.0                                           |                |     |         |
|     | 3000  | IZMI | 5 S    | 1151.0        | 1153.5                     | 7.0               | 58.0                                            | 30.0           |     |         |
|     | 810   | KRAK | 4 S/F  | 1151.0        | 1154.5                     | 8.5               | 20.0                                            | 10.0           |     |         |
|     | 536   | ONDR | 8 S    | 1258.5        | 1258.5                     | .3                | 7.0                                             |                |     |         |
|     | 2800  | OTTA | 1 S    | 1543.0        | 1543.7                     | 1.8               | 9.2                                             |                |     |         |
|     | 2800  | OTTA | 21 GRF | 1738.0        | 1745.0                     | 37.0              | 6.6                                             | 3.3            |     |         |
|     | 2800  | OTTA | 3 S    | 1740.5        | 1741.0                     | 3.5               | 50.0                                            | 12.6           |     |         |
|     | 2800  | OTTA | 1 S    | 1750.0        | 1751.0                     | 2.0               | 2.6                                             | 1.3            |     |         |
|     | 2695  | PENT | 1 S    | 2018.0        | 2019.0                     | 2.0               | 2.6                                             | 1.4            |     |         |
|     | 2800  | OTTA | 21 GRF | 2035.0        | 2135.0                     | 215.0             | 3.8                                             | 2.0            |     |         |
|     | 9400  | TYKW | 5 S    | 2109.3        | 2109.6                     | 0.7               | 7.0                                             | 2.0            |     |         |
|     | 100   | HIRA | 42 SER | 2146.4        | 2147.1                     | 10.4              | 2100.0                                          |                |     | WR      |
|     | 3750  | TYKW | 21 GRF | 2154.0        | 2158.0                     | 65.0              | 2.0                                             | 1.0            |     |         |
|     | 9400  | TYKW | 21 GRF | 2220.0        | 2225.0                     | 40.0              | 4.0                                             | 2.0            |     |         |
|     | 3750  | TYKW | 21 GRF | 2224.0        | 2236.0                     | 30.0              | 2.0                                             | 1.0            |     |         |
|     | 3750  | TYKW | 5 S    | 2240.0        | 2243.5                     | 6.0               | 5.0                                             | 2.0            |     |         |
|     | 2695  | PENT | 20 GRF | 2241.0        | 2244.0                     | 15.0              | 2.8                                             | 1.4            |     |         |
|     | 9400  | TYKW | 45 C   | 2243.0        | 2249.8                     | 11.0              | 5.0                                             | 2.0            |     |         |
|     | 3750  | TYKW | 29 PBI | 2246.0        |                            | 6.0               | 2.0                                             | 1.0            |     |         |

Reports are received routinely from the following observatories:

|                  |                   |                  |                      |
|------------------|-------------------|------------------|----------------------|
| ATHN = Athens    | HUAN = Huancayo   | NAGO = Nagoya    | POTS = Potsdam       |
| BERN = Berne     | IRKU = Irkutsk    | NOBE = Nobeyama  | SAOP = Sao Paulo     |
| BORD = Bordeaux  | IZMI = IZMIRAN    | ONDR = Ondrejov  | SGMR = Sagamore Hill |
| CRIM = Crimea    | KISV = Kislovodsk | OTTA = Ottawa    | TORN = Torun         |
| DWIN = Dwingeloo | KRAK = Krakow     | PALE = Palahua   | TYKW = Toyokawa      |
| GORK = Gorky     | LEAR = Learmonth  | PEKG = Peking    | TRST = Trieste       |
| HIRA = Hiraiso   | MANI = Manila     | PENT = Penticton | UPIC = Upice         |
|                  |                   |                  | VORO = Voroshilov    |

## Explanation of Type Code:

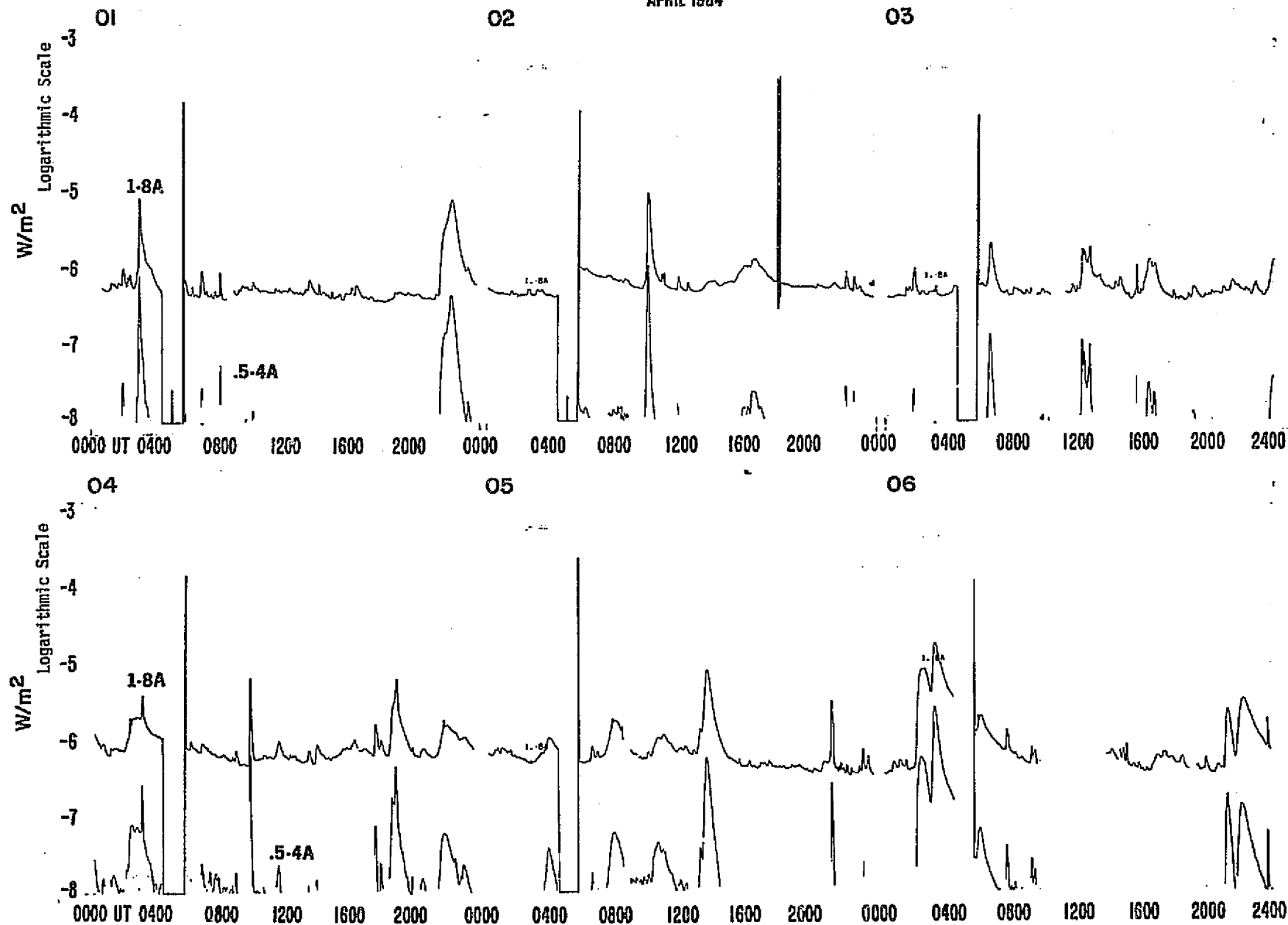
|             |               |                        |                          |                            |
|-------------|---------------|------------------------|--------------------------|----------------------------|
| 1 Simple 1  | 7 Minor +     | 24 Rise                | 30 Post Burst Increase A | 43 Onset of Noise Storm    |
| 2 Simple 1F | 8 Spike       | 25 Rise A              | 31 Post Burst Decrease   | 44 Noise Storm in Progress |
| 3 Simple 2  | 20 Simple 3   | 26 Fall                | 33 Absorption            | 45 Complex                 |
| 4 Simple 2F | 21 Simple 3A  | 27 Rise and Fall       | 40 Fluctuation           | 46 Complex F               |
| 5 Simple    | 22 Simple 3F  | 28 Precursor           | 41 Group of Bursts       | 47 Great Burst             |
| 6 Minor     | 23 Simple 3AF | 29 Post Burst Increase | 42 Series of Bursts      | 48 Major                   |
|             |               |                        |                          | 49 Major +                 |

|                   |                  |                  |                           |
|-------------------|------------------|------------------|---------------------------|
| 1A Simple 1A      | 4A Simple 2AF    | 24PF Post Rise F | 27F Rise and Fall F       |
| 3A Simple 2A      | 240 Rise only    | 16A Fall A       | 27AF Rise and Fall AF     |
| 21A Simple 3A GRF | 240F Rise only F | 260 Fall Only    | 31A Post Burst Decrease A |
| 2A Simple 1AF     | 24P Post Rise    | 26F Fall F       | 32A Absorption A          |
|                   |                  |                  | 46F Complex F             |

# SMS-GOES X-RAYS

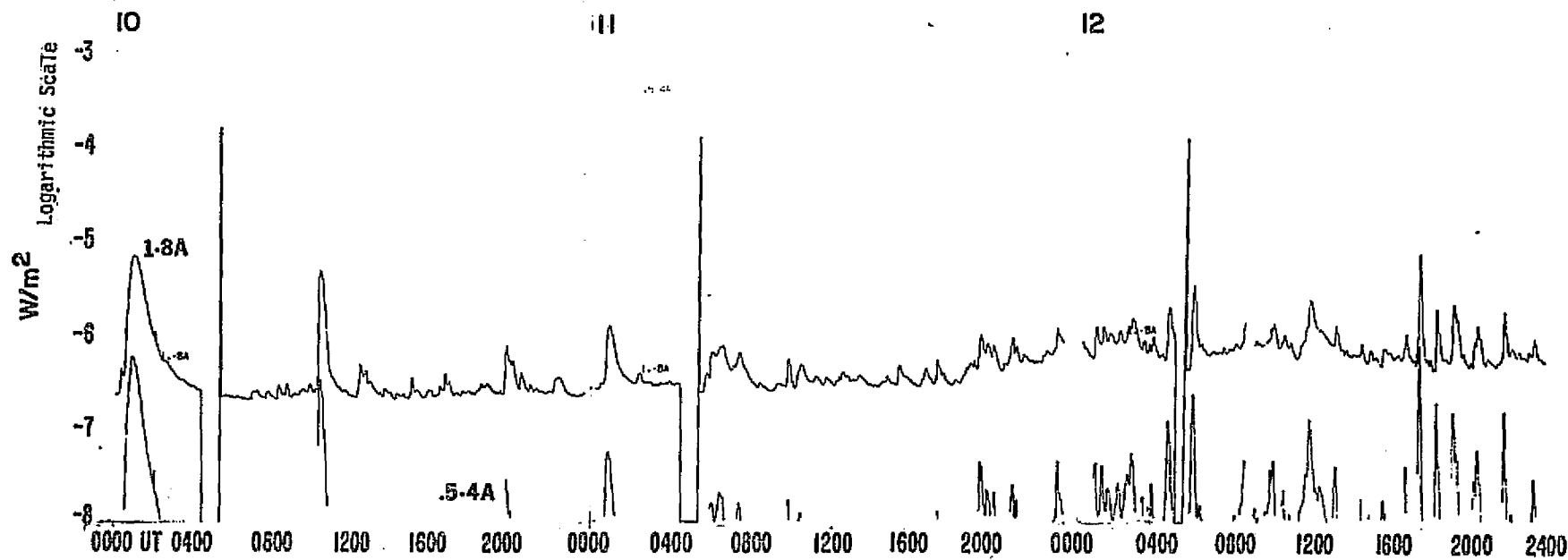
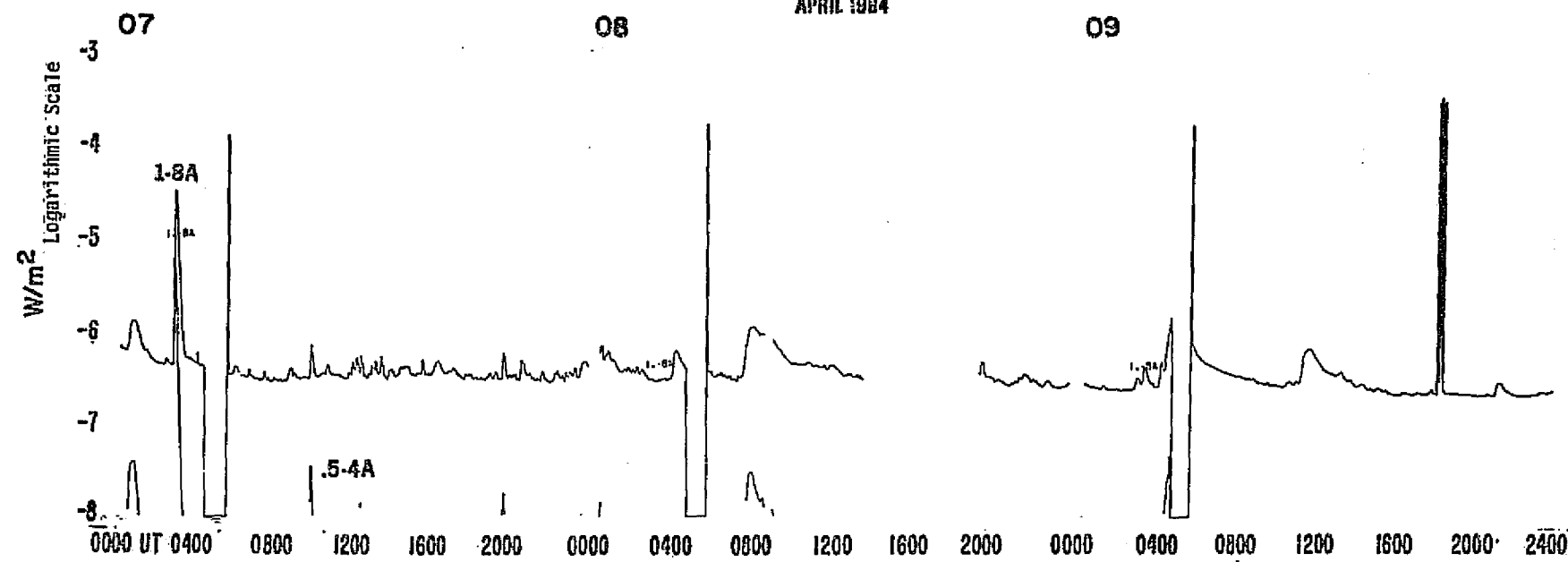
APRIL 1984

52  
Apr 84



# SMS-GOES X-RAYS

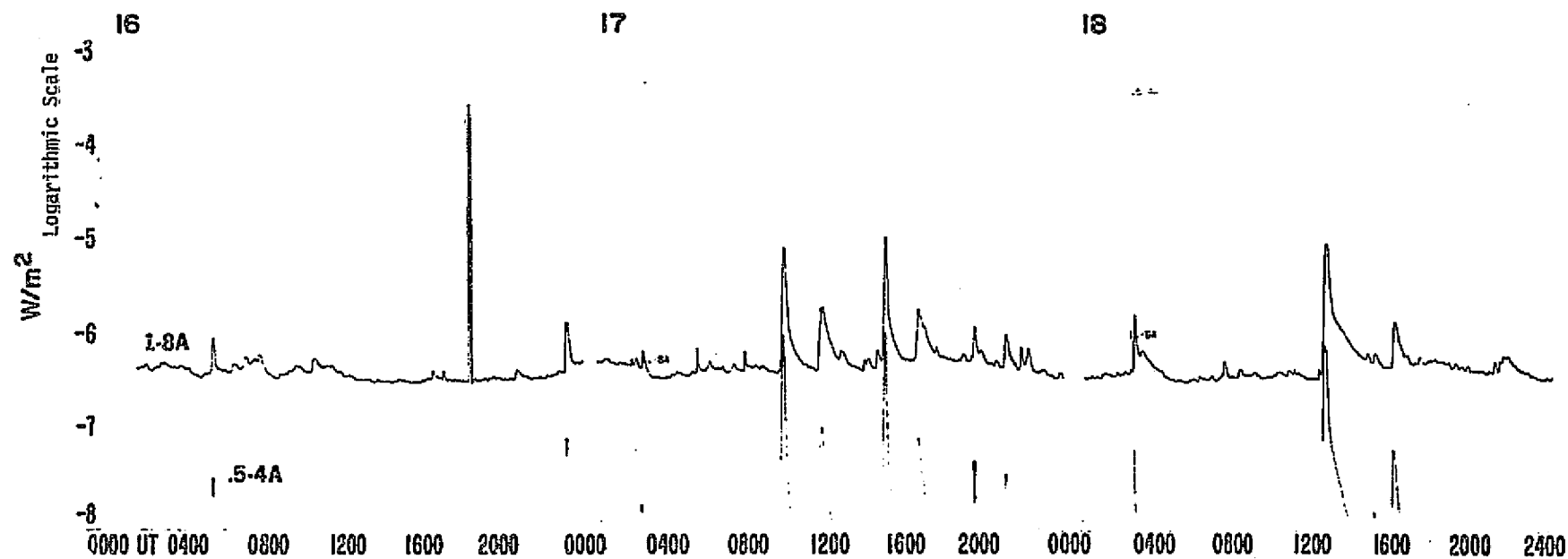
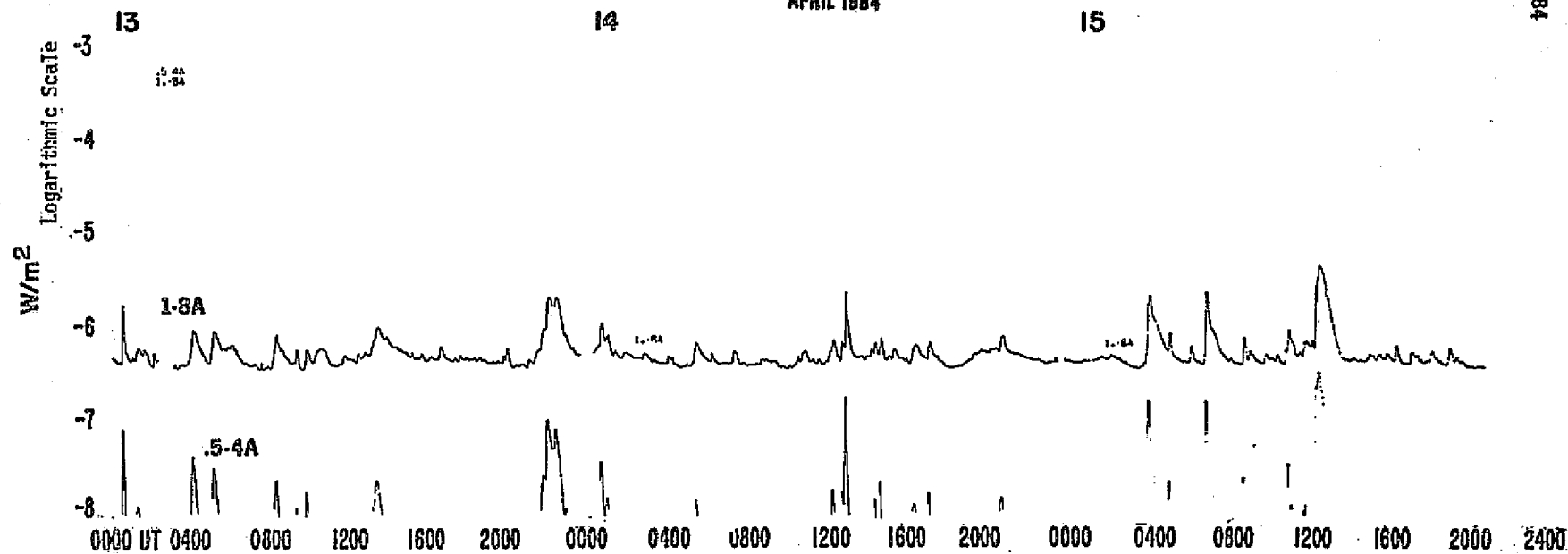
APRIL 1984



# SMS-GOES X-RAYS

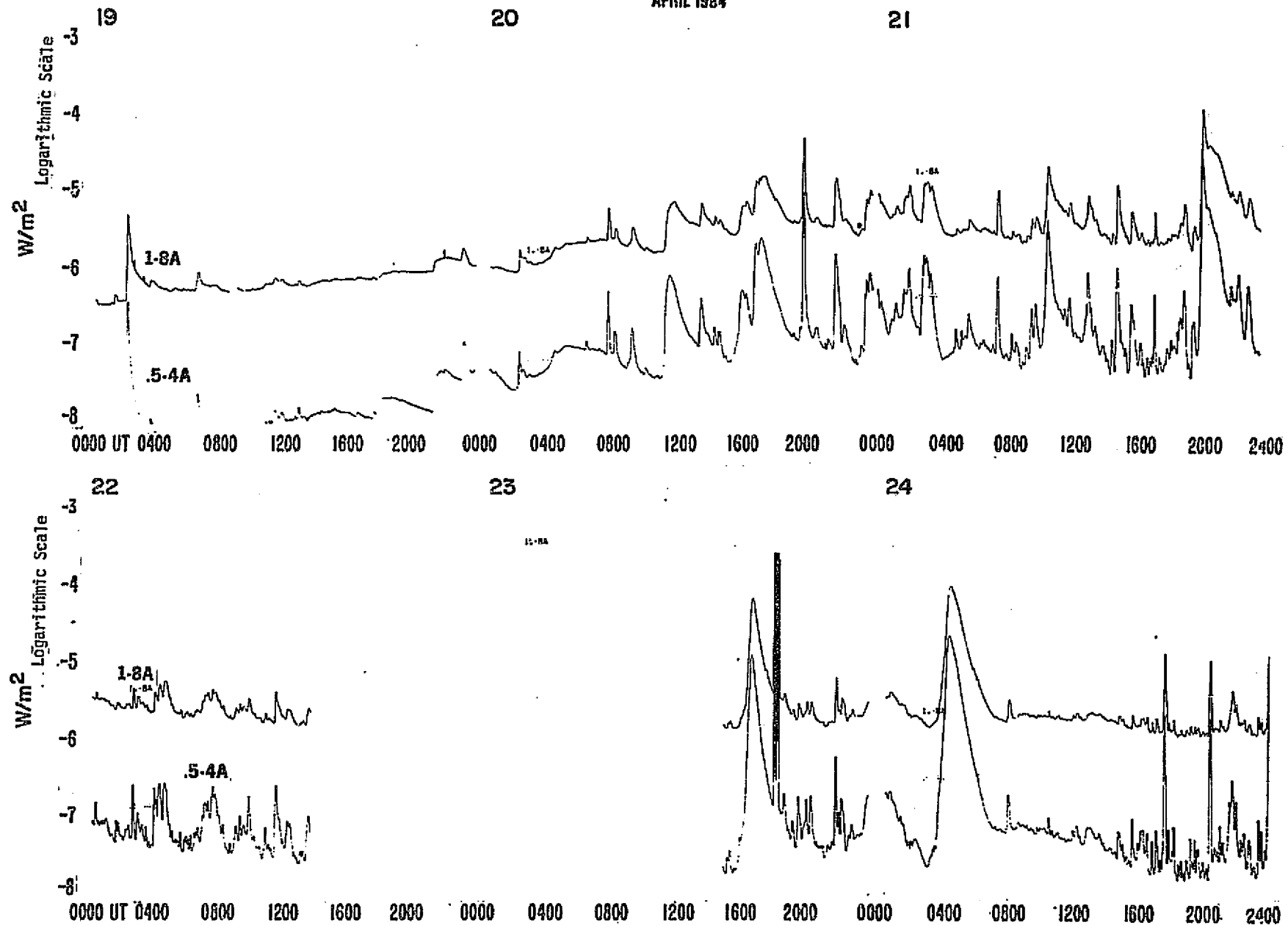
APRIL 1984

54  
Apr 84



# SMS-GOES X-RAYS

APRIL 1984

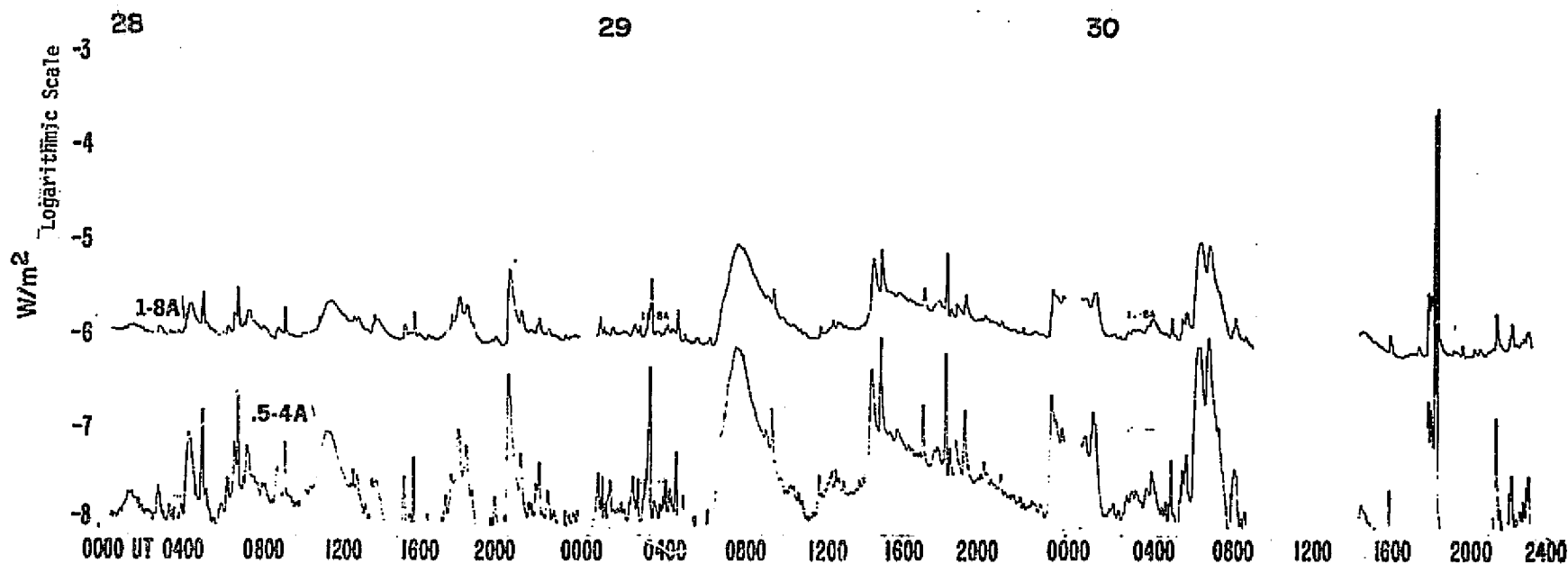
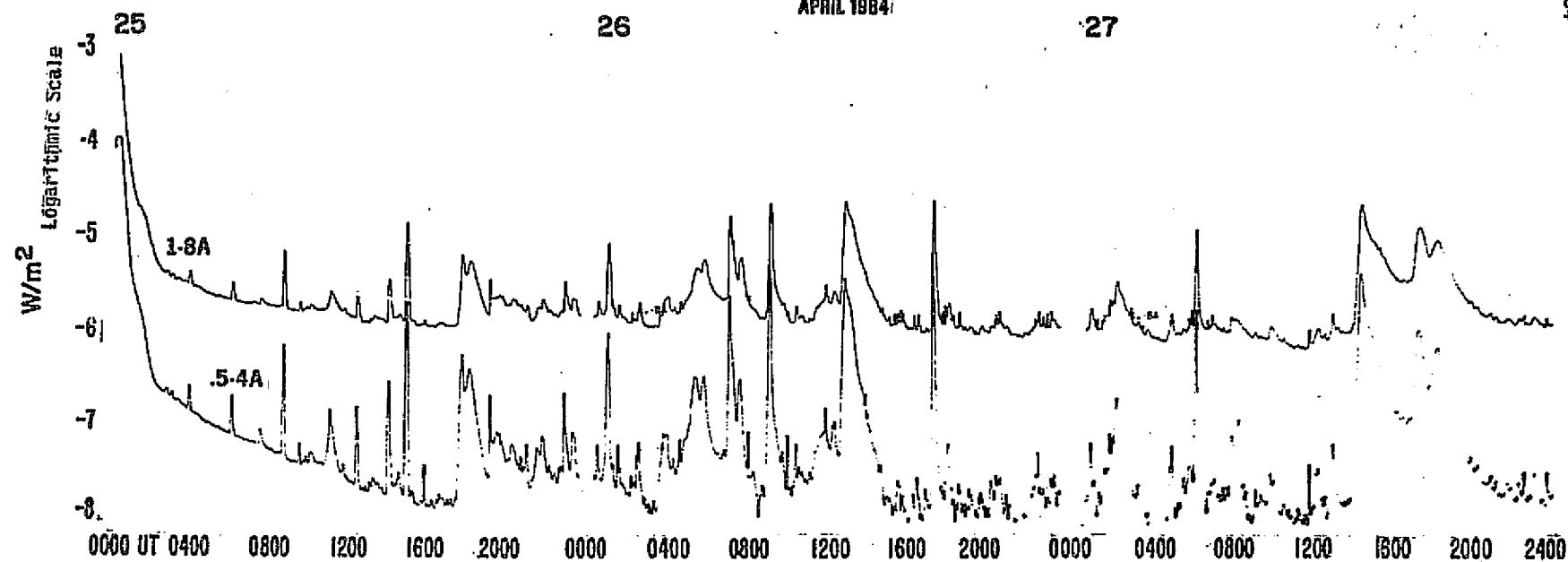




# SMS-GOES X-RAYS

APRIL 1984

56  
Apr 84



## MASS EJECTIONS FROM THE SUN

57  
Apr 84

APRIL 1984

| Sta  | Day    | Observed UT |        |        | Location |                  | Freq or Wavelength | Kind of Event |
|------|--------|-------------|--------|--------|----------|------------------|--------------------|---------------|
|      |        | Start       | Max    | End    | RA°      | R/R <sub>0</sub> |                    |               |
| SGMR | Apr 01 | - 2158.0    |        | 2206.0 |          |                  | Meter              | II            |
| PALE | Apr 01 | - 2159.1    |        | 2207.6 |          |                  | Meter              | II            |
| LEAR | Apr 04 | 0258.1      |        | 0318.1 |          |                  | Meter              | II            |
| KHAR | Apr 04 | 1025        | E      | 1040   | D 260    | 0.50             | H-alpha            | S             |
| KHAR | Apr 04 | 1125        | E      | 1134   | D 258    | 0.50             | H-alpha            | S             |
| KHAR | Apr 05 | 0930        | E      | 0952   | D 263    | 0.77             | H-alpha            | S             |
| LEAR | Apr 06 | - 0152.1    |        | 1002.0 |          |                  | Meter              | IV            |
| PALE | Apr 06 | - 0152.1    |        | 0212.8 |          |                  | Meter              | IV            |
| VORO | Apr 06 | 0240        | E 0242 | 0253   | D 108    | 0.87             | H-alpha            | SP            |
| KHAR | Apr 07 | 0828        | E      | 0840   | D 262    | 1                | H-alpha            | S             |
| KHAR | Apr 08 | - 0705      | E      | 0805   | D 259    | 1                | H-alpha            | S             |
| GEOR | Apr 08 | - 0730      | E      | 0735   | D 254    | 1                | H-alpha            | S             |
| WEND | Apr 10 | 0728        | E      | 0744   | 080      | 1.0              | H-alpha            | S             |
| WEND | Apr 10 | 1018        | 1030   | 1055   | 080      | 1.0-1.12         | H-alpha            | S and SP      |
| WEIS | Apr 13 | 1037.5      |        | 1052.5 |          |                  | Meter              | II            |
| KHAR | Apr 14 | 1042        | E      | 1100   | D 073    | 0.51             | H-alpha            | S             |
| GEOR | Apr 20 | 0859        | U 0927 | 0935   | D 261    | 1                | H-alpha            | S             |
| WEIS | Apr 23 | 1631.6      |        | 1643.2 |          |                  | 30-260 MHz         | II Harmonic   |
| LEAR | Apr 25 | 0000.3      |        | 0230.0 |          |                  | Meter              | IV            |
| VORO | Apr 25 | 0023        | E      | 0032   | D 137    | 0.72             | H-alpha            | S             |
| VORO | Apr 25 | 0044        | E 0050 | 0058   | D 097    | 0.67             | H-alpha            | S             |
| LEAR | Apr 26 | 0655.5      |        | 0657.0 |          |                  | Meter              | II            |
| LEAR | Apr 26 | 0655.5      |        | 0946.0 |          |                  | Meter              | IV            |
| WEIS | Apr 27 | 0543.0      |        | 0545.4 |          |                  | 70-320 MHz         | II Harmonic   |
| GEOR | Apr 27 | 0810        | E      | 0910   | D 104    | 1                | H-alpha            | S             |
| KHAR | Apr 28 | 0702        | E      | 0731   | D 123    | 0.19             | H-alpha            | S             |
| KHAR | Apr 28 | 0722        | E      | 0731   | D 110    | 0.19             | H-alpha            | S             |
| KHAR | Apr 28 | 0752        | E      | 0755   | D 110    | 0.05             | H-alpha            | S             |
| WEIS | Apr 29 | 0506.7      |        | 0520.3 |          |                  | Meter              | II            |

## QUALIFIERS ON START, MAX AND END TIMES

D = event ended after tabulated time  
 E = event began before the tabulated time  
 U = uncertain time

## TYPE OF EVENT

A = eruptive active region prominence  
 CB = coronal cloud bubble  
 D = coronal depletions  
 E = coronal enhancement  
 EL = coronal expanding loop  
 II = Type II radio burst  
 IVm = moving Type IV radio burst  
 Q = eruptive quiescent prominence  
 R = coronal ray or streamer  
 S = flare-surge if there is a known flare association  
 SP = flare-spray if there is a known flare association  
 \* = movement may be caused by ionospheric refraction

## REPORTING STATIONS

GEOR = Georgiana  
 KHAR = Kharkov  
 LEAR = Learmonth  
 PALE = Palahua  
 SGMR = Sagamore Hill  
 VORO = Voroshilov  
 WEIS = Weissenau  
 WEND = Wendelstein

58  
Apr 84

ACTIVE PROMINENCES AND FILAMENTS

APRIL 1984

| Type  | Day    | Observed UT |           | Lat | Cmd | Imp | Obs Type | Sta  | Remarks                                |
|-------|--------|-------------|-----------|-----|-----|-----|----------|------|----------------------------------------|
| Start | End    |             |           |     |     |     |          |      |                                        |
| BSL   | Apr 01 | 0620E       | 0635      | N17 | W90 | 1-  | C        | CATA |                                        |
| ASR   | Apr 01 | 0850        | 1114      | S16 | E90 |     | V        | ATHN |                                        |
| AFS   | Apr 01 | 0900        | 1400      | N18 | E28 |     | V        | ATHN |                                        |
| ASR   | Apr 01 | 1200        | 1250      | N30 | W90 |     | V        | ATHN |                                        |
| SDF   | Apr 02 | 0505        | 0716E     | S20 | E63 | 3   | C        | CULG | .65 R, disappeared from N to S, flare. |
| SDF   | Apr 02 | 0716        | 0127      | S32 | W04 | 1   | C        | CULG | .20 R, partial, overnight.             |
| AFS   | Apr 02 | 0820        | 1400      | N21 | E15 |     | V        | ATHN |                                        |
| ASR   | Apr 02 | 0850        | 0930      | S11 | W90 |     | V        | ATHN |                                        |
| ADF   | Apr 02 | 0915        | 1400      | N19 | E20 |     | V        | ATHN |                                        |
| BSL   | Apr 03 | 0715E       | 0735      | N01 | W90 | 1-  | C        | CATA |                                        |
| SDF   | Apr 03 | 1125E       | 0715D     | S43 | E01 | 1   | C        | CATA | 1125 UT refers to April 2.             |
| AFS   | Apr 04 | 0600        | 0650      | S12 | W32 |     | V        | ATHN |                                        |
| BSL   | Apr 04 | 0905        | 0910      | S03 | W90 | 1-  | C        | CATA |                                        |
| BSL   | Apr 04 | 0940        | 0945      | N10 | E90 | 1-  | C        | CATA |                                        |
| BSL   | Apr 07 | 0855        | 0900      | N68 | E90 | 1-  | C        | CATA |                                        |
| AFS   | Apr 07 | 1143        | 1400      | S09 | W25 |     | V        | ATHN |                                        |
| ADF   | Apr 07 | 1203        | 1400      | S05 | W21 |     | V        | ATHN |                                        |
| ASR   | Apr 07 | 1213        | 1400      | S10 | W90 |     | V        | ATHN |                                        |
| BSL   | Apr 08 | 0625        | 0650      | S10 | W90 | 1   | C        | CATA |                                        |
| BSL   | Apr 08 | 0720E       | 0740      | S08 | W90 | 2   | C        | CATA |                                        |
| BSL   | Apr 08 | 0800        | 0805D     | S08 | W90 | 1   | C        | CATA |                                        |
| SDF   | Apr 09 | 1145E       | 0640D     | S01 | W35 | 1   | C        | CATA | 1145 UT refers to April 8.             |
| SDF   | Apr 10 | 0712        | 2111      | N04 | E13 | 2   | C        | CULG | .17 R, 2 sections, overnight.          |
| BSL   | Apr 11 | 0551        | 0613      | S14 | W73 | 1   | C        | CULG | .09 R, surge bright on disk also.      |
| BSL   | Apr 11 | 0602        | 0636      | S11 | W90 |     | V        | ATHN |                                        |
| SDF   | Apr 11 | 0712        | 2133      | S30 | E13 | 2   | C        | CULG | .28 R, overnight, partial.             |
| BSL   | Apr 12 | 0740E       | 0755      | N36 | W90 | 1-  | C        | CATA |                                        |
| APR   | Apr 12 | 0810        | 0930      | S04 | W90 |     | V        | ATHN |                                        |
| AFS   | Apr 12 | 0856        | 0930      | N10 | E52 |     | V        | ATHN |                                        |
| BSL   | Apr 12 | 0940        | 1005      | N21 | W90 | 1   | C        | CATA |                                        |
| BSL   | Apr 12 | 1115E       | 1120      | S15 | W90 | 1-  | C        | CATA |                                        |
| BSL   | Apr 12 | 1115E       | 1130      | S01 | W90 | 1-  | C        | CATA |                                        |
| BSL   | Apr 12 | 2110        | 2210      | S13 | W88 | 1   | C        | CULG | .06 R.                                 |
| BSL   | Apr 13 | 0337        | 0408      | S17 | E88 | 1   | C        | CULG | .07 R.                                 |
| OSD   | Apr 13 | 0436E       | 0518      | S00 | E38 | 1   | C        | CULG | .10 R, southward.                      |
| BSL   | Apr 13 | 0725E       | 0750      | N67 | E90 | 1-  | C        | CATA |                                        |
| AFS   | Apr 13 | 0810        | 0950      | N11 | E40 |     | V        | ATHN |                                        |
| BSL   | Apr 13 | 0840E       | 0850      | S20 | E90 | 1-  | C        | CATA |                                        |
| EPL   | Apr 13 | 1125E       | 1145D     | S06 | W90 | 2   | C        | CATA |                                        |
| AFS   | Apr 14 | 0730        | 0747      | N05 | E25 |     | V        | ATHN |                                        |
| BSL   | Apr 14 | 0805        | 0825      | S16 | E90 | 1-  | C        | CATA |                                        |
| BSL   | Apr 14 | 1130        | 1145D     | S20 | E90 | 1-  | C        | CATA |                                        |
| BSL   | Apr 15 | 0535E       | 0545D     | S25 | W90 | 1-  | C        | CATA |                                        |
| BSL   | Apr 15 | 0635        | 0650      | N07 | W90 | 1-  | C        | CATA |                                        |
| AFS   | Apr 15 | 0944        | 1400      | S22 | W02 |     | V        | ATHN |                                        |
| AFS   | Apr 16 | 0935        | 1345      | N07 | E01 |     | V        | ATHN |                                        |
| APR   | Apr 16 | 0945        | 1345      | S19 | E90 |     | V        | ATHN |                                        |
| ASR   | Apr 16 | 1100        | 1345      | S17 | E90 |     | V        | ATHN |                                        |
| BSL   | Apr 18 | 0815        | 0830      | S09 | E90 | 1-  | C        | CATA |                                        |
| DSF   | Apr 19 | 0202        | 2148/20th | N07 | W21 | 2   | C        | CULG | .20 R, overcast day between.           |

## ACTIVE PROMINENCES AND FILAMENTS

59  
Apr 84

APRIL 1984

| Type | Day    | Observed UT<br>Start End | Lat CMD | Imp | Obs<br>Type | Sta  | Remarks                     |
|------|--------|--------------------------|---------|-----|-------------|------|-----------------------------|
| BSL  | Apr 20 | 0724 0743                | S06 E90 | 1   | C           | WEND | rs, A, X1.                  |
| EPL  | Apr 20 | 0730 0800D               | S08 E90 | 1   | C           | CATA |                             |
| BSL  | Apr 20 | 0855E 0955               | S12 E90 | 1   | C           | CATA |                             |
| BSL  | Apr 20 | 1000 1005D               | S11 E90 | 1   | C           | CATA |                             |
| APR  | Apr 20 | 2148 0600/21st           | S08 E89 | 1   | C           | CULG | P.                          |
| BSL  | Apr 20 | 2148E 2159D              | S03 E88 | 3   | C           | CULG | .25 R.                      |
| BSL  | Apr 20 | 2148E 2159D              | S11 E88 | 2   | C           | CULG | .17 R.                      |
| BSL  | Apr 21 | 0153 0338                | S04 E88 | 3   | C           | CULG | .21 R, B.                   |
| BSL  | Apr 21 | 0810E 0810D              | S05 E90 | 1-  | C           | CATA |                             |
| BSL  | Apr 21 | 0830E 0830D              | S05 E90 | 1-  | C           | CATA |                             |
| BSL  | Apr 21 | 0905E 0905D              | N02 W90 | 1-  | C           | CATA |                             |
| BSL  | Apr 21 | 0920E 0920D              | N05 W90 | 1   | C           | CATA |                             |
| APR  | Apr 21 | 2137E 2330               | S10 E88 | 1   | C           | CULG | .08 R, K.                   |
| APR  | Apr 21 | 2230 0445/22nd           | S01 W86 | 1   | C           | CULG | P, .02 to .04 R.            |
| BSL  | Apr 22 | 0344 0447                | S07 E86 | 1   | C           | CULG | .06 R.                      |
| BSL  | Apr 22 | 0800 0815                | N70 W90 | 1-  | C           | CATA |                             |
| SDF  | Apr 22 | 1055E 0645D              | N28 E65 | 1   | C           | CATA | 1055 UT refers to April 21. |
| SDF  | Apr 22 | 1055E 0645D              | N03 W12 | 1   | C           | CATA | 1055 UT refers to April 21. |
| SDF  | Apr 22 | 1055E 0645D              | N05 W35 | 1   | C           | CATA | 1055 UT refers to April 21. |
| EPL  | Apr 22 | 2310 0110                | S19 E89 | 1   | C           | CULG | .07 R.                      |
| APR  | Apr 23 | 0136 0309D               | S09 E87 | 1   | C           | CULG | .05 R, J.                   |
| BSL  | Apr 23 | 0735 0800                | N14 W90 | 1   | C           | CATA |                             |
| BSL  | Apr 23 | 0755 0825                | N03 W90 | 1   | C           | CATA |                             |
| BSL  | Apr 23 | 0900 0915                | S25 E90 | 1-  | C           | CATA |                             |
| BSL  | Apr 23 | 0925 0955                | N17 W90 | 1-  | C           | CATA |                             |
| AFS  | Apr 24 | 0830 0840                | S14 E50 |     | V           | ATHN |                             |
| AFS  | Apr 24 | 0830 0840                | S12 E42 |     | V           | ATHN |                             |
| DSD  | Apr 25 | 0014 0026                | S17 E46 | 1   | C           | CULG | .10 R, D, south-eastward.   |
| DSD  | Apr 25 | 0046 0059                | S17 E46 | 2   | C           | CULG | .14 R, D, south-eastward.   |
| BSL  | Apr 25 | 0650 0705                | N07 E90 | 1-  | C           | CATA |                             |
| EPL  | Apr 25 | 0900E 1030D              | N25 W90 | 2   | C           | CATA |                             |
| BSL  | Apr 26 | 0517 0531                | S17 E89 | 3   | C           | CULG | .23 R, F.                   |
| BSL  | Apr 26 | 0630 0645                | N15 W90 | 1-  | C           | CATA |                             |
| AFS  | Apr 27 | 0738 1400                | S11 W38 |     | V           | ATHN |                             |
| AFS  | Apr 27 | 0739 1400                | S15 E21 |     | V           | ATHN |                             |
| AFS  | Apr 27 | 0855 1400                | S11 E43 |     | V           | ATHN |                             |
| ADF  | Apr 27 | 0910 1400                | S13 E11 |     | V           | ATHN |                             |
| ADF  | Apr 27 | 0937 1400                | S13 W39 |     | V           | ATHN |                             |
| BSL  | Apr 27 | 1050E 1105D              | N40 E90 | 1-  | C           | CATA |                             |
| AFS  | Apr 27 | 1059 1400                | S10 E21 |     | V           | ATHN |                             |
| DSD  | Apr 28 | 0446 0457                | S13 W12 | 1   | C           | CULG | .06 R, westward.            |
| DSD  | Apr 28 | 2211 2256                | S08 E24 | 2   | C           | CULG | .13 R, northward.           |
| AFS  | Apr 30 | 1222 1250                | S12 W02 |     | V           | ATHN |                             |

BSL = Bright surge at limb.  
ADF = Active dark filament.  
AFS = Active filament system.  
APR = Active prominence region at limb.

ASR = Active surge region.  
DSD = Dark surge on disk.  
EPL = Eruptive prominence at limb.  
SDF = Sudden disappearance of filament.

ATHN = Athens  
BUCA = Bucharest

CATA = Catania  
CULG = Culgoora

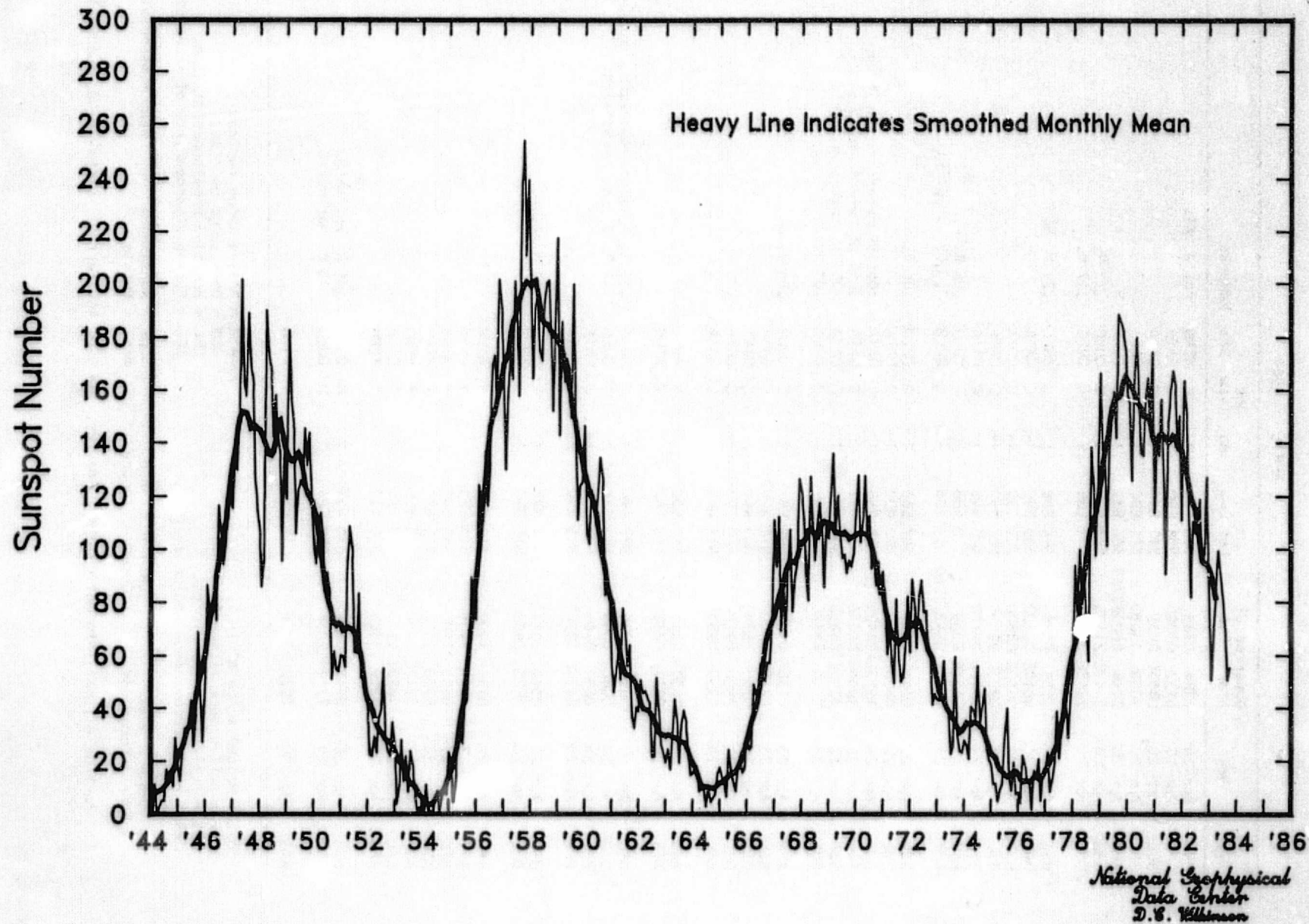
KODA = Kodaikanal  
MANI = Manila

WEND = Wendelstein

For more detail and information about Remarks, see SGD, 480 Part II, pages 59-60, August 1984.

# MONTHLY MEAN SUNSPOT NUMBERS

January 1944 - October 1983



C O N T E N T S

Comprehensive Reports

DATA FOR NOVEMBER 1981

Number 482

Part II

|                                                       | Page  |
|-------------------------------------------------------|-------|
| SOLAR FLARES November 1981                            |       |
| H-alpha Flares (Standardized Data) . . . . .          | 62-99 |
| Daily Flare Indices. . . . .                          | 99    |
| Intervals of No Flare Patrol Observation . . . . .    | 100   |
| NUMBER OF FLARES August 1966 - November 1981. . . . . | 101   |

## H - ALPHA SOLAR FLARES

NOVEMBER 1981

| Sta      | Day  | Start<br>(UT) | Max<br>(UT) | End<br>(UT)     | Lat   | CND | Hale        |                 | CMP<br>Day | Dur<br>(Min) | Imp | Obs<br>Type | Area Measurement |                 |                  | Remarks |     |
|----------|------|---------------|-------------|-----------------|-------|-----|-------------|-----------------|------------|--------------|-----|-------------|------------------|-----------------|------------------|---------|-----|
|          |      |               |             |                 |       |     | Cen<br>Dist | Plage<br>Region |            |              |     |             | Time<br>(UT)     | Appar<br>(Disk) | Corr<br>(Sq Deg) |         |     |
| 902      | LEAR | 01            | 0441        | 0445            | 0516  | S13 | E44         | .732            | 17969      | 4.5          | 35  | -B          | 3                | C               | 144              |         | FE  |
| 903      | LEAR | 01            | 0550        | 0552            | 0555  | S12 | E43         | .717            | 17969      | 4.5          | 5   | -N          | 3                | C               | 27               |         |     |
| 904      | LEAR | 01            | 0621        | 0621            | 0626  | S13 | E46         | .753            | 17969      | 4.7          | 5   | -F          | 3                | C               | 21               |         |     |
| GRP98905 | 01   | 0635          | 0642        | 0653            | S11   | E44 | .724        | 17969           | 4.6        | 18           | -N  |             |                  |                 |                  |         | E   |
|          | LEAR | 01            | 0635        | 0642            | 0655  | S13 | E43         | .721            | 17969      | 4.5          | 20  | -N          | 3                | C               | 37               |         |     |
|          | YUNN | 01            | 0639E       |                 | 0651  | S10 | E45         | .732            | 17969      | 4.7          | 12D | 1N          | P                | 0639            | 241              | 3.6     | E   |
| GRP98906 | 01   | 0810+7        | 0814        | 0853            | S13   | E41 | .698        | 17969           | 4.4        | 43           | 1F  |             |                  |                 |                  |         | EJ  |
|          |      |               | 0823        |                 |       |     |             |                 |            |              |     |             |                  |                 |                  |         |     |
| ABST     | 01   | 0810          | 0814        | 0850D           | S14   | E44 | .735        | 17969           | 4.6        | 40D          | 1N  | P           | 0814             | 262             | 3.8              |         | FJ  |
| ABST     | 01   | 0817          | 0823        | 0835            | S13   | E52 | .814        | 17969           | 5.2        | 18           | 1F  | C           | 0823             | 131             | 2.2              |         | EJ  |
| CATA     | 01   | 0845          | 0905        | 0910D           | S16   | E38 | .679        | 17969           | 4.2        | 25D          | -   | 2           | P                | 0905            | 112              | 1.6     |     |
| YUNN     | 01   | 0848E         |             | 0856D           | S10   | E39 | .662        | 17969           | 4.3        | 8D           | 1F  | P           | 0848             | 160             | 2.3              |         | E   |
| 907      | LEAR | 01            | 0913        | 0915            | 0933  | N15 | E21         | .394            | 17963      | 3.0          | 20  | -F          | 3                | C               | 57               |         | F   |
| 908      | CATA | 01            | 0920E       | 0920            | 0935D | S16 | E38         | .679            | 17972      | 4.2          | 15D | -           | 2                | P               | 0920             | 140     | 2.0 |
|          | 01   | 1051          | 1059        | NO FLARE PATROL |       |     |             |                 |            |              |     |             |                  |                 |                  |         |     |
| 909      | ATHN | 01            | 1135E       | 1137            | 1138D | S12 | E35         | .622            | 17972      | 4.1          | 3D  | -N          | 3                | V               | 1137             | 127     | 1.7 |
| 910      | KANZ | 01            | 1151E       |                 | 1211D | S12 | E40         | .682            | 17969      | 4.5          | 20D | -F          | 2                |                 |                  |         |     |
| 911      | CATA | 01            | 1235        | 1240            | 1245D | S11 | E50         | .789            | 17969      | 5.3          | 10D | -           | 2                | P               | 1240             | 84      | 1.4 |
|          | 01   | 1401          | 1433        | NO FLARE PATROL |       |     |             |                 |            |              |     |             |                  |                 |                  |         |     |
| 912      | HOLL | 01            | 1434E       | 1434U           | 1444  | N09 | W27         | .457            | 17956      | 30.6         | 10D | -F          | 3                | C               | 40               |         | F   |
|          | 01   | 1435          | 1447        | NO FLARE PATROL |       |     |             |                 |            |              |     |             |                  |                 |                  |         |     |
| 913      | HOLL | 01            | 1449        | 1450            | 1500  | S11 | E39         | .666            | 17969      | 4.5          | 11  | -N          | 3                | C               | 31               |         |     |
| 914      | HOLL | 01            | 1505        | 1537            | 1543  | S11 | E38         | .654            | 17969      | 4.5          | 38  | -B          | 3                | C               | 64               |         |     |
|          | 01   | 1518          | 1523        | NO FLARE PATROL |       |     |             |                 |            |              |     |             |                  |                 |                  |         |     |
| 915      | HOLL | 01            | 1539        | 1542            | 1545  | N08 | W28         | .470            | 17956      | 30.6         | 6   | -F          | 3                | C               | 24               |         | F   |
| 916      | HOLL | 01            | 1543        | 1600            | 1611  | S11 | E39         | .666            | 17969      | 4.6          | 28  | -N          | *                | C               | 21               |         |     |
|          | 01   | 1547          | 1551        | NO FLARE PATROL |       |     |             |                 |            |              |     |             |                  |                 |                  |         |     |
| 917      | HOLL | 01            | 1642        | 1659            | 1703  | S22 | E13         | .489            | 17962      | 2.7          | 21  | -F          | 3                | C               | 21               |         |     |
| GRP98918 | 01   | 1643          | 1814+1      | 1818            | S13   | E37 | .652        | 17969           | 4.5        | 95           | -B  |             |                  |                 |                  |         | E   |
| HOLL     | 01   | 1643          | 1814        | 1817            | S14   | E38 | .668        | 17969           | 4.5        | 94           | -B  | 3           | C                | 139             |                  |         | FE  |
| PALE     | 01   | 1722E         | 1722U       | 1802            | S13   | E37 | .652        | 17969           | 4.5        | 40D          | -N  | 2           | C                | 26              |                  |         | E   |
| PALE     | 01   | 1813          | 1815        | 1819            | S11   | E36 | .629        | 17969           | 4.5        | 6            | -B  | 2           | C                | 49              |                  |         |     |
| GRP98919 | 01   | 1839+4        | 1843+0      | 1903            | S22   | E11 | .477        | 17962           | 2.6        | 24           | -N  |             |                  |                 |                  |         | F   |
| HOLL     | 01   | 1839          | 1843        | 1914            | S22   | E11 | .477        | 17962           | 2.6        | 35           | -N  | 3           | C                | 173             |                  |         | F   |
| PALE     | 01   | 1843          | 1843        | 1851            | S22   | E11 | .477        | 17962           | 2.6        | 8            | -N  | 2           | C                | 30              |                  |         |     |
| 920      | HOLL | 01            | 1852        | 1853            | 1904  | N16 | E12         | .285            | 17963      | 2.7          | 12  | -F          | 3                | C               | 35               |         |     |
| 921      | HOLL | 01            | 1935        | 1940            | 1949  | S11 | E36         | .629            | 17969      | 4.5          | 14  | -N          | 3                | C               | 23               |         | F   |
| 922      | HOLL | 01            | 2003        | 2019            | 2043  | S10 | E33         | .586            | 17969      | 4.3          | 40  | -N          | 3                | C               | 45               |         | F   |
| 923      | HOLL | 01            | 2104        | 2105            | 2110  | S10 | E35         | .612            | 17969      | 4.5          | 6   | -B          | 3                | C               | 49               |         |     |
| 924      | HOLL | 01            | 2132        | 2136            | 2159  | S22 | E10         | .472            | 17962      | 2.6          | 27  | -N          | 3                | C               | 60               |         |     |
| 925      | HOLL | 01            | 2132        | 2136            | 2203  | S11 | E33         | .592            | 17969      | 4.4          | 31  | -F          | 3                | C               | 47               |         |     |

## H - ALPHA SOLAR FLARES

63  
Nov 81

NOVEMBER 1981

| Sta      | Day  | Start<br>(UT) | Max<br>(UT) | End<br>(UT) | Lat             | CND | Hale        |                 | CNP<br>Day | Dur<br>(Min) | Imp | Obs<br>Type | Area<br>Time<br>(UT) | Measurement     |                  | Remarks |  |
|----------|------|---------------|-------------|-------------|-----------------|-----|-------------|-----------------|------------|--------------|-----|-------------|----------------------|-----------------|------------------|---------|--|
|          |      |               |             |             |                 |     | Con<br>Dist | Plage<br>Region |            |              |     |             |                      | Appar<br>(Disk) | Corr<br>(Sq Deg) |         |  |
| GRP98926 | 01   | 2254+2        | 2254+3      | 2307        | S10             | E34 | .599        | 17969           | 4.5        | 13           | -B  |             |                      | 80              | 1.0              |         |  |
| HOLL     | 01   | 2254          | 2254        | 2310        | S10             | E36 | .624        | 17969           | 4.7        | 16           | -B  | 3 C         |                      | 66              |                  |         |  |
| LEAR     | 01   | 2256          | 2257        | 2303        | S11             | E33 | .592        | 17969           | 4.4        | 7            | -B  | 3 C         |                      | 97              |                  |         |  |
| 927      | LEAR | 02            | 0038        | 0041        | 0050            | S22 | E07         | .457            | 17962      | 2.6          | 12  | -F          | 3 C                  | 37              |                  | F       |  |
| 928      | LEAR | 02            | 0046        | 0046        | 0055            | S11 | E32         | .578            | 17969      | 4.4          | 9   | -F          | 3 C                  | 39              |                  |         |  |
| GRP98929 | 02   | 0145          | 0146+1      | 0154        | S11             | E31 | .566        | 17969           | 4.4        | 9            | -B  |             |                      | 60              | .7               |         |  |
| LEAR     | 02   | 0145          | 0146        | 0154        | S11             | E32 | .578        | 17969           | 4.5        | 9            | -B  | 3 C         |                      | 76              |                  |         |  |
| MANI     | 02   | 0146E         | 0147        | 0149D       | S12             | E31 | .572        | 17969           | 4.4        | 30           | -B  | 1 V         |                      | 50              | .6               |         |  |
| 930      | LEAR | 02            | 0308        | 0310        | 0317            | S11 | E31         | .566            | 17969      | 4.5          | 9   | -B          | 3 C                  | 20              |                  | F       |  |
| 931      | LEAR | 02            | 0353        | 0355        | 0357            | S11 | E30         | .553            | 17969      | 4.4          | 4   | -N          | 3 C                  | 23              |                  |         |  |
| 932      | LEAR | 02            | 0405        | 0407        | 0412            | S22 | E06         | .453            | 17962      | 2.6          | 7   | -F          | 3 C                  | 28              |                  |         |  |
| 933      | LEAR | 02            | 0633        | 0634        | 0637            | S11 | E28         | .527            | 17969      | 4.4          | 4   | -N          | 3 C                  | 39              |                  |         |  |
| GRP98934 | 02   | 0711          | 0721        | 0810        | S07             | E26 | .474        | 17969           | 4.2        | 59           | -N  |             |                      |                 |                  | EI      |  |
|          |      |               | 0732        |             |                 |     |             |                 |            |              |     |             |                      |                 |                  |         |  |
| HTPR     | 02   | 0711          | 0721        | 0739        | S09             | E27 | .500        | 17969           | 4.3        | 28           | -N  | C           | 0721                 | 50              | .6               | EI      |  |
| HTPR     | 02   | 0715          | 0732        | 0810        | S05             | E25 | .449        | 17969           | 4.2        | 55           | -F  | C           | 0732                 | 60              | .7               | E       |  |
| GRP98935 | 02   | 0817+0        | 0818+2      | 0826        | S11             | E28 | .527        | 17969           | 4.4        | 9            | -F  |             |                      | 35              | .4               | E       |  |
| LEAR     | 02   | 0817          | 0818        | 0822        | S11             | E28 | .527        | 17969           | 4.4        | 5            | -F  | 3 C         |                      | 34              |                  |         |  |
| HTPR     | 02   | 0817          | 0820        | 0830        | S11             | E29 | .540        | 17969           | 4.5        | 13           | -N  | C           | 0820                 | 40              | .4               | E       |  |
| GRP98936 | 02   | 1154+6        | 1200+1      | 1210        | N03             | E80 | .984        | 17987           | 8.5        | 16           | -F  |             |                      | 35              |                  |         |  |
| WEND     | 02   | 1154          | 1201        | 1209        | N03             | E81 | .987        | 17987           | 8.6        | 15           | -F  | C           | 1201                 | 44              |                  |         |  |
| CATA     | 02   | 1200          | 1200        | 1210        | N03             | E80 | .984        | 17987           | 8.5        | 10           | -   | 1 C         | 1200                 | 28              |                  |         |  |
| GRP98937 | 02   | 1213+2        | 1215+0      | 1220        | S12             | E25 | .496        | 17969           | 4.4        | 7            | -N  |             |                      | 50              | .6               | E       |  |
| WEND     | 02   | 1213          | 1215        | 1219        | S11             | E25 | .488        | 17969           | 4.4        | 6            | -N  | C           | 1215                 | 38              | .4               |         |  |
| HTPR     | 02   | 1214          | 1215        | 1223        | S12             | E27 | .521        | 17969           | 4.5        | 9            | -B  | C           | 1215                 | 50              | .6               | E       |  |
| CATA     | 02   | 1215          | 1215        | 1220        | S12             | E25 | .496        | 17969           | 4.4        | 5            | -   | 1 C         | 1215                 | 56              | .7               |         |  |
| GRP98938 | 02   | 1244+1        | 1246+2      | 1303        | S10             | E23 | .454        | 17969           | 4.3        | 19           | -N  |             |                      | 40              | .4               | E       |  |
| HTPR     | 02   | 1244          | 1248        | 1305        | S09             | E24 | .460        | 17969           | 4.3        | 21           | -N  | C           | 1248                 | 40              | .4               | E       |  |
| WEND     | 02   | 1244          | 1246        | 1301        | S10             | E23 | .454        | 17969           | 4.3        | 17           | -F  | C           | 1246                 | 31              | .4               |         |  |
| CATA     | 02   | 1245          | 1245        | 1245D       | S12             | E22 | .458        | 17969           | 4.2        |              | -   | 1 P         | 1245                 | 84              | 1.0              |         |  |
| 939      | WEND | 02            | 1248        | 1250        | 1258            | N13 | E43         | .686            | 17980      | 5.8          | 10  | -F          | C                    | 1250            | 38               | .5      |  |
| GRP98940 | 02   | 1403+8        | 1409+2      | 1416        | N16             | E03 | .209        | 17963           | 2.8        | 13           | -F  |             |                      | 35              | .4               |         |  |
| WEND     | 02   | 1403          | 1409        | 1415        | N15             | E03 | .193        | 17963           | 2.8        | 12           | -F  | C           | 1409                 | 38              | .4               |         |  |
| RAMY     | 02   | 1411          | 1411        | 1417        | N17             | E04 | .230        | 17963           | 2.9        | 6            | -F  | 3 C         |                      | 29              |                  |         |  |
| GRP98941 | 02   | 1411          | 1413        | 1429        | S10             | E23 | .454        | 17969           | 4.3        | 18           | -F  |             |                      |                 |                  | E       |  |
|          |      |               | 1421        |             |                 |     |             |                 |            |              |     |             |                      |                 |                  |         |  |
| HTPR     | 02   | 1411          | 1413        | 1416        | S12             | E25 | .496        | 17969           | 4.5        | 5            | -F  | C           | 1413                 | 10              | .1               |         |  |
| HTPR     | 02   | 1412          | 1421        | 1429        | S09             | E22 | .433        | 17969           | 4.2        | 17           | -F  | C           | 1421                 | 20              | .2               | E       |  |
| GRP98942 | 02   | 1501+1        | 1504+2      | 1525        | N15             | E02 | .189        | 17963           | 2.8        | 24           | 1B  |             |                      | 270             | 2.8              | E       |  |
| HOLL     | 02   | 1501          | 1504        | 1525        | N15             | E03 | .193        | 17963           | 2.9        | 24           | 1B  | 3 C         |                      | 313             |                  | FE      |  |
| RAMY     | 02   | 1502          | 1504        | 1521        | N15             | E02 | .189        | 17963           | 2.8        | 19           | 1B  | 3 C         |                      | 271             |                  | FE      |  |
| HTPR     | 02   | 1502          | 1506        | 1521        | N13             | E01 | .152        | 17963           | 2.7        | 19           | -B  | C           | 1506                 | 150             | 1.5              | E       |  |
| HTPR     | 02   | 1503          | 1506        | 1527        | N16             | E04 | .214        | 17963           | 2.9        | 24           | -B  | C           | 1506                 | 80              | .8               | E       |  |
| GRP98943 | 02   | 1503+1        | 1504+1      | 1510        | S09             | E22 | .433        | 17969           | 4.3        | 7            | -N  |             |                      | 50              | .6               | E       |  |
| HTPR     | 02   | 1503          | 1505        | 1510        | S08             | E20 | .398        | 17969           | 4.1        | 7            | -F  | C           | 1505                 | 60              | .6               | E       |  |
| RAMY     | 02   | 1504          | 1504        | 1509D       | S11             | E24 | .475        | 17969           | 4.4        | 50           | -B  | 3 C         |                      | 42              |                  |         |  |
| 944      | HTPR | 02            | 1546        | 1547        | 1554            | S11 | E27         | .514            | 17969      | 4.7          | 8   | -N          | C                    | 1547            | 50               | .6      |  |
|          |      | 02            | 1639        | 1644        | NO FLARE PATROL |     |             |                 |            |              |     |             |                      |                 |                  |         |  |
|          |      | 02            | 1729        | 1810        | NO FLARE PATROL |     |             |                 |            |              |     |             |                      |                 |                  |         |  |
|          |      | 02            | 1831        | 1835        | NO FLARE PATROL |     |             |                 |            |              |     |             |                      |                 |                  |         |  |
| 945      | HOLL | 02            | 1907        | 1908        | 1930            | S12 | E31         | .572            | 17969      | 5.1          | 23  | -N          | 3 C                  | 27              |                  | F       |  |



64  
Nov 81

# H - ALPHA SOLAR FLARES

NOVEMBER 1981

| Sta      | Day | Start<br>(UT) | Max<br>(UT)  | End<br>(UT)     | Lat | CND | Hale        |        | CMP<br>Day | Dur<br>(Min) | Obs<br>Imp | Type | Area<br>Time<br>(UT) | Measurement     |                  | Remarks |  |
|----------|-----|---------------|--------------|-----------------|-----|-----|-------------|--------|------------|--------------|------------|------|----------------------|-----------------|------------------|---------|--|
|          |     |               |              |                 |     |     | Gen<br>Dist | Region |            |              |            |      |                      | Appar<br>(Disk) | Corr<br>(Sq Deg) |         |  |
|          | 02  | 1914          | 1928         | NO FLARE PATROL |     |     |             |        |            |              |            |      |                      |                 |                  |         |  |
| 946 HOL  | 02  | 2021          | 2026         | 2038            | S10 | E21 | .428        | 17969  | 4.4        | 17           | -N         | 3 C  |                      | 35              |                  |         |  |
| 947 HOL  | 02  | 2044          | 2044         | 2050            | S10 | E20 | .415        | 17969  | 4.4        | 6            | -B         | 3 C  |                      | 32              |                  |         |  |
| GRP98948 | 02  | 2053          | 2054<br>2128 | 2224            | S11 | E18 | .400        | 17972  | 4.2        | 91           | -B         |      |                      |                 |                  | FK      |  |
| HOLL     | 02  | 2053          | 2054         | 2224            | S11 | E18 | .400        | 17972  | 4.2        | 91           | -B         | 3 C  |                      | 62              |                  | K       |  |
| HOLL     | 02  | 2053          | 2128         | 2224            | S11 | E18 | .400        | 17972  | 4.2        | 91           | -B         | 3 C  |                      | 175             |                  | FK      |  |
| GRP98949 | 02  | 2254+1        | 2254+2       | 2300            | S11 | E19 | .412        | 17969  | 4.4        | 6            | -N         |      |                      | 80              | .9               | E       |  |
| HOLL     | 02  | 2254          | 2254         | 2259            | S10 | E19 | .402        | 17969  | 4.4        | 5            | -B         | 3 C  |                      | 76              |                  | E       |  |
| LEAR     | 02  | 2255          | 2256         | 2300            | S11 | E19 | .412        | 17969  | 4.4        | 5            | -N         | 3 C  |                      | 99              |                  |         |  |
| MANI     | 02  | 2255E         | 2255U        | 2300            | S11 | E19 | .412        | 17969  | 4.4        | 5D           | -F         | 1 V  |                      | 60              | .7               |         |  |
| GRP98950 | 02  | 2330+3        | 2332+2       | 2353            | S12 | E17 | .398        | 17972  | 4.3        | 23           | -N         |      |                      | 100             | 1.1              | F       |  |
| HOLL     | 02  | 2330          | 2333         | 2340D           | S12 | E16 | .387        | 17972  | 4.2        | 10D          | -B         | 3 C  |                      | 95              |                  | E       |  |
| MANI     | 02  | 2332E         | 2332U        | 2339D           | S12 | E17 | .398        | 17972  | 4.3        | 7D           | -N         | 1 V  |                      | 100             | 1.1              | F       |  |
| LEAR     | 02  | 2333          | 2334         | 2353            | S12 | E17 | .398        | 17972  | 4.3        | 20           | -F         | 3 C  |                      | 106             |                  | F       |  |
| 951 PURP | 03  | 0242          | 0253         | 0321            | S22 | W06 | .452        | 17962  | 2.7        | 39           | -F         | C    | 0253                 | 170             | 2.0              |         |  |
| 952 PURP | 03  | 0307          | 0317         | 0335            | S13 | E15 | .387        | 17972  | 4.3        | 28           |            | C    | 0317                 | 124             | 1.4              | E       |  |
| 953 CULG | 03  | 0450E         | 0451U        | 0455D           | N14 | W06 | .198        | 17963  | 2.8        | 5D           | -F         | P    | 0451                 | 60              | .6               |         |  |
| 954 ATHN | 03  | 0612          | 0615         | 0626            | S12 | E22 | .457        | 17969  | 4.9        | 14           | -B         | 3 C  | 0615                 | 80              | .9               |         |  |
| 955 CULG | 03  | 0639E         | 0645         | 0647D           | S07 | E21 | .403        | 17969  | 4.9        | 8D           | -F         | P    | 0645                 | 30              | .3               |         |  |
| GRP98956 | 03  | 0705>9        | 0711         | 0735            | S11 | E14 | .352        | 17969  | 4.3        | 30           | -F         |      |                      |                 |                  |         |  |
|          |     |               | 0731         |                 |     |     |             |        |            |              |            |      |                      |                 |                  |         |  |
| CULG     | 03  | 0705E         | 0711U        | 0735U           | S10 | E11 | .308        | 17969  | 4.1        | 30D          | -F         | P    | 0711                 | 60              | .6               |         |  |
| LEAR     | 03  | 0730          | 0731         | 0734            | S12 | E18 | .409        | 17969  | 4.7        | 4            | -F         | 3 C  |                      | 22              |                  |         |  |
| GRP98957 | 03  | 0834+1        | 0835+2       | 0843            | S12 | E29 | .546        | 17969  | 5.5        | 9            | -F         |      |                      |                 |                  | F       |  |
| LEAR     | 03  | 0834          | 0837         | 0843            | S13 | E24 | .491        | 17969  | 5.2        | 9            | -F         | 3 C  |                      | 37              |                  | F       |  |
| KANZ     | 03  | 0835          | 0835         | 0843            | S12 | E34 | .609        | 17969  | 5.9        | 8            | -F         | 3    |                      |                 |                  |         |  |
| GRP98958 | 03  | 0859          | 0859         | 0910            | S07 | E13 | .295        | 17969  | 4.3        | 11           | -F         |      |                      |                 |                  |         |  |
|          |     |               | 0903         |                 |     |     |             |        |            |              |            |      |                      |                 |                  |         |  |
| KANZ     | 03  | 0859          | 0859         | 0906            | S10 | E16 | .364        | 17969  | 4.6        | 7            | -F         | 3    |                      |                 |                  |         |  |
| KANZ     | 03  | 0903          | 0903         | 0910            | S04 | E10 | .224        | 17969  | 4.1        | 7            | -F         | 3    |                      |                 |                  |         |  |
| GRP98959 | 03  | 0906+2        | 0910+5       | 0919            | S21 | W11 | .460        | 17962  | 2.6        | 13           | -F         |      |                      | 50              | .6               | FU      |  |
| KANZ     | 03  | 0906          | 0915         | 0919            | S20 | W11 | .446        | 17962  | 2.6        | 13           | -F         | 3    |                      |                 |                  |         |  |
| LEAR     | 03  | 0907          | 0910         | 0922            | S21 | W11 | .460        | 17962  | 2.6        | 15           | -N         | 3 C  |                      | 67              |                  | UF      |  |
| WEND     | 03  | 0908          | 0912         | 0918            | S21 | W09 | .449        | 17962  | 2.7        | 10           | -F         | C    | 0912                 | 38              | .4               |         |  |
| GRP98960 | 03  | 0946+0        | 0950+2       | 0957            | S11 | E16 | .375        | 17969  | 4.6        | 11           | -F         |      |                      |                 |                  |         |  |
| KANZ     | 03  | 0946          | 0950         | 0957            | S11 | E17 | .387        | 17969  | 4.7        | 11           | -F         | 3    |                      |                 |                  |         |  |
| WEND     | 03  | 0946          | 0952         | 0957            | S11 | E16 | .375        | 17969  | 4.6        | 11           | -N         | C    | 0952                 | 10              | .1               |         |  |
| 961 KANZ | 03  | 1134          | 1134         | 1142            | S13 | E13 | .367        | 17969  | 4.5        | 8            | -F         | 3    |                      |                 |                  |         |  |
| 962 KANZ | 03  | 1312          | 1312         | 1315            | S10 | E09 | .289        | 17969  | 4.2        | 3            | -F         | 3    |                      |                 |                  |         |  |
| GRP98963 | 03  | 1330+1        | 1333+1       | 1341            | N13 | W49 | .756        | 17955  | 30.9       | 11           | -F         |      |                      |                 |                  |         |  |
| KANZ     | 03  | 1330          | 1334         | 1342            | N12 | W50 | .766        | 17955  | 30.8       | 12           | -F         | 3    |                      |                 |                  |         |  |
| WEND     | 03  | 1331          | 1333         | 1340            | N14 | W49 | .758        | 17955  | 30.9       | 9            | -F         | C    | 1333                 | 25              | .4               |         |  |
| 964 KANZ | 03  | 1406          | 1406         | 1413            | N11 | E02 | .123        | 17966  | 3.7        | 7            | -F         | 3    |                      |                 |                  |         |  |
| GRP98965 | 03  | 1413+2        | 1413+4       | 1430            | S13 | E18 | .420        | 17969  | 4.9        | 17           | -F         |      |                      |                 |                  | E       |  |
| KANZ     | 03  | 1413          | 1413         | 1429            | S12 | E17 | .397        | 17969  | 4.9        | 16           | -N         | 3    |                      |                 |                  | E       |  |
| HTPR     | 03  | 1415          | 1417         | 1430            | S14 | E20 | .453        | 17969  | 5.1        | 15           | -F         | C    | 1417                 | 70              | .7               | E       |  |
| GRP98966 | 03  | 1458          | 1502+1       | 1516            | S18 | E86 | .999        | 17989  | 10.1       | 18           | -B         |      |                      |                 |                  |         |  |
| HTPR     | 03  | 1458          | 1503         | 1515            | S19 | E90 | 1.000       | 17989  | 10.4       | 17           | -B         | C    | 1503                 | 40              |                  |         |  |
| HOLL     | 03  | 1500E         | 1502         | 1516            | S17 | E83 | .995        | 17989  | 9.8        | 16D          | -B         | 3 C  |                      |                 |                  |         |  |

## H - ALPHA SOLAR FLARES

65  
Nov 81

NOVEMBER 1981

| Sta      | Day | Start<br>(UT) | Max<br>(UT) | End<br>(UT)     | Lat | CMD | Hale<br>Con<br>Dist | Hale<br>Pole<br>Region | CMP<br>Day | Dur<br>(Min) | Obs<br>Imp | Type | Area<br>Time<br>(UT) | Measurement<br>Appar<br>(Disk) | Corr<br>(Sq Deg) | Remarks |
|----------|-----|---------------|-------------|-----------------|-----|-----|---------------------|------------------------|------------|--------------|------------|------|----------------------|--------------------------------|------------------|---------|
| GRP98967 | 03  | 1530+1        | 1531        | 1546            | N18 | W49 | .764                | 17955                  | 31.0       | 16           | -N         |      |                      | 60                             | .9               | E       |
| WEND     | 03  | 1530          |             | 1538D           | N18 | W46 | .732                | 17955                  | 31.2       | 8D           | -N         | C    | 1531                 | 60                             | .9               |         |
| HOLL     | 03  | 1531          | 1531        | 1546            | N18 | W49 | .764                | 17955                  | 31.0       | 15           | -N         | 3 C  |                      | 50                             |                  |         |
| HTPR     | 03  | 1531          |             | 1542D           | N18 | W52 | .795                | 17955                  | 30.7       | 11D          | -N         | C    | 1533                 | 80                             | 1.3              | E       |
| 968 HOLL | 03  | 1609          | 1627        | 1646            | N08 | W58 | .846                | 17956                  | 30.3       | 37           | -F         | 3 C  |                      | 40                             |                  |         |
| 969 HOLL | 03  | 1619          | 1619        | 1630            | S20 | W15 | .475                | 17962                  | 2.6        | 11           | -F         | 3 C  |                      | 26                             |                  |         |
| GRP98970 | 03  | 1650+2        | 1654+1      | 1731            | N14 | W08 | .218                | 17963                  | 3.1        | 41           | -N         |      |                      | 140                            | 1.4              | F       |
| HOLL     | 03  | 1650          | 1654        | 1745            | N15 | W08 | .231                | 17963                  | 3.1        | 55           | -N         | 3 C  |                      | 126                            |                  | F       |
| RAMY     | 03  | 1652          | 1655        | 1716            | N14 | W08 | .218                | 17963                  | 3.1        | 24           | -N         | 3 C  |                      | 157                            |                  |         |
|          | 03  | 1837          | 1847        | NO FLARE PATROL |     |     |                     |                        |            |              |            |      |                      |                                |                  |         |
| 971 HOLL | 03  | 1916          | 1917        | 1925            | S20 | W16 | .483                | 17962                  | 2.6        | 9            | -F         | 3 C  |                      | 29                             |                  |         |
| 972 HOLL | 03  | 1929          | 1930        | 1955            | N07 | W62 | .881                | 17956                  | 30.2       | 26           | -F         | 3 C  |                      | 34                             |                  |         |
| 973 HOLL | 03  | 1935          | 1937        | 1955            | N16 | W57 | .840                | 17955                  | 30.5       | 20           | -F         | 3 C  |                      | 24                             |                  |         |
| 974 CULG | 03  | 2007          | 2009        | 2019            | S02 | E11 | .218                |                        | 4.7        | 12           | *-F        | C    | 2009                 | 20                             | .2               |         |
| GRP98975 | 03  | 2009+4        | 2016+2      | 2036            | S11 | E07 | .288                | 17969                  | 4.4        | 27           | -N         |      |                      | 90                             | .9               | FJS     |
| HOLL     | 03  | 2009          | 2018        | 2035            | S11 | E07 | .288                | 17969                  | 4.4        | 26           | -B         | 3 C  |                      | 115                            |                  | FS      |
| CULG     | 03  | 2013          | 2016        | 2037            | S12 | E07 | .303                | 17969                  | 4.4        | 24           | -N         | C    | 2016                 | 70                             | .7               | J       |
| 976 HOLL | 03  | 2012          | 2013        | 2028            | N16 | W53 | .802                | 17955                  | 30.9       | 16           | -F         | 3 C  |                      | 21                             |                  |         |
| GRP98977 | 03  | 2100+2        | 2105+0      | 2119            | N15 | W57 | .839                | 17955                  | 30.6       | 19           | -N         |      |                      | 70                             | 1.3              | DJ      |
| CULG     | 03  | 2100          | 2105        | 2118            | N15 | W58 | .848                | 17955                  | 30.5       | 18           | -N         | C    | 2105                 | 70                             | 1.3              | DJ      |
| HOLL     | 03  | 2102          | 2105        | 2119            | N15 | W57 | .839                | 17955                  | 30.6       | 17           | -B         | 3 C  |                      | 69                             |                  |         |
| 978 CULG | 03  | 2152          | 2201        | 2217            | S03 | E10 | .213                | 17969                  | 4.7        | 25           | -F         | C    | 2201                 | 40                             | .4               | J       |
| GRP98979 | 03  | 2250+7        | 2257+2      | 2339            | S23 | W19 | .544                | 17962                  | 2.5        | 49           | -N         |      |                      | 80                             | .9               | FK      |
|          |     |               | 2313        |                 |     |     |                     |                        |            |              |            |      |                      |                                |                  |         |
| CULG     | 03  | 2250          | 2259        | 2339D           | S24 | W18 | .548                | 17962                  | 2.6        | 49D          | -N         | * P  | 2259                 | 80                             | .9               | K       |
| HOLL     | 03  | 2253          | 2257        | 2348D           | S23 | W19 | .544                | 17962                  | 2.5        | 55D          | -N         | * C  |                      | 75                             |                  | K       |
| LEAR     | 03  | 2257          | 2257        | 2309            | S23 | W19 | .544                | 17962                  | 2.5        | 12           | -F         | * C  |                      | 31                             |                  |         |
| LEAR     | 03  | 2311          | 2313        | 2330            | S23 | W19 | .544                | 17962                  | 2.5        | 19           | -F         | * C  |                      | 28                             |                  | F       |
| 980 HOLL | 03  | 2252          | 2253        | 2302            | N30 | W11 | .467                | 17964                  | 3.1        | 10           | -F         | 3 C  |                      | 37                             |                  |         |
| GRP98981 | 03  | 2303+3        | 2306+2      | 2314            | N15 | W59 | .857                | 17955                  | 30.5       | 11           | -N         |      |                      | 40                             | .8               | J       |
| CULG     | 03  | 2303          | 2308        | 2320            | N15 | W59 | .857                | 17955                  | 30.5       | 17           | -N         | C    | 2308                 | 50                             | 1.0              | J       |
| HOLL     | 03  | 2305          | 2306        | 2314            | N15 | W60 | .866                | 17955                  | 30.5       | 9            | -B         | 3 C  |                      | 33                             |                  |         |
| LEAR     | 03  | 2306          | 2307        | 2314            | N16 | W58 | .849                | 17955                  | 30.6       | 8            | -N         | 3 C  |                      | 34                             |                  |         |
| GRP98982 | 03  | 2317+2        | 2319+3      | 2331            | S04 | E08 | .199                | 17969                  | 4.6        | 14           | -F         |      |                      | 40                             | .4               |         |
| CULG     | 03  | 2317          | 2322        | 2334            | S02 | E10 | .204                | 17969                  | 4.7        | 17           | -F         | C    | 2322                 | 50                             | .5               |         |
| HOLL     | 03  | 2319          | 2319        | 2328            | S07 | E07 | .228                | 17969                  | 4.5        | 9            | -N         | 3 C  |                      | 28                             |                  |         |
| 983 CULG | 04  | 0002          | 0008        | 0018            | S09 | E03 | .232                | 17969                  | 4.2        | 16           | -F         | C    | 0008                 | 40                             | .4               |         |
| 984 CULG | 04  | 0026          | 0042        | 0229            | N03 | E52 | .787                | 17987                  | 7.9        | 123          | -F         | C    | 0042                 | 20                             | .3               | G       |
| 985 PEKG | 04  | 0118E         | 0118        | 0130D           | S07 | E05 | .211                | 17969                  | 4.4        | 12D          | -N         | P    | 0118                 | 42                             | .4               | E       |
| 986 PEKG | 04  | 0130E         | 0130        | 0130D           | N17 | W61 | .875                | 17955                  | 30.5       |              | -N         | P    | 0130                 | 25                             | .5               | D       |
| 987 PEKG | 04  | 0130E         | 0130        | 0130D           | N20 | W15 | .368                | 17963                  | 2.9        |              | -F         | P    | 0130                 | 55                             | .6               | D       |
| 988 PEKG | 04  | 0130E         | 0130        | 0130D           | N19 | E03 | .262                | 17966                  | 4.3        |              | -F         | P    | 0130                 | 46                             | .5               | E       |
| GRP98989 | 04  | 0152          | 0154        | 0218            | S07 | E05 | .211                | 17969                  | 4.5        | 26           | -N         |      |                      |                                |                  |         |
|          |     |               | 0211        |                 |     |     |                     |                        |            |              |            |      |                      |                                |                  |         |
| LEAR     | 04  | 0152          | 0154        | 0218            | S08 | E06 | .233                | 17969                  | 4.5        | 26           | -N         | 3 C  |                      | 81                             |                  | F       |
| PEKG     | 04  | 0159E         | 0211        | 0217            | S07 | E05 | .211                | 17969                  | 4.5        | 18D          | -N         | P    | 0211                 | 101                            | 1.1              | E       |

66  
Nov 81

# H - ALPHA SOLAR FLARES

NOVEMBER 1981

| Sta      | Day | Start<br>(UT) | Max<br>(UT) | End<br>(UT) | Lat | CMD | Hale  |        | CMP<br>Day | Dur<br>(Min) | Imp | Obs<br>Type | Area<br>Time<br>(UT) | Measurement     |                  | Remarks |
|----------|-----|---------------|-------------|-------------|-----|-----|-------|--------|------------|--------------|-----|-------------|----------------------|-----------------|------------------|---------|
|          |     |               |             |             |     |     | Dist  | Region |            |              |     |             |                      | Appar<br>(Disk) | Corr<br>(Sq Deg) |         |
| GRP98990 | 04  | 0209+8        | 0222+5      | 0234        | N15 | W62 | .882  | 17955  | 30.4       | 25           | -F  |             |                      | 40              | .9               | D       |
| CULG     | 04  | 0209E         | 0227U       | 0240        | N14 | W63 | .890  | 17955  | 30.4       | 31D          | -F  | P           | 0227                 | 30              | .6               |         |
| PEKG     | 04  | 0217          | 0222        | 0227        | N17 | W62 | .883  | 17955  | 30.4       | 10           | -F  | P           | 0222                 | 46              | 1.0              | D       |
| 991 CULG | 04  | 0240          | 0244        | 0302        | S08 | E02 | .212  | 17969  | 4.3        | 22           | -N  | C           | 0244                 | 70              | .7               |         |
| GRP98992 | 04  | 0341+4        | 0345+1      | 0355        | N15 | W61 | .874  | 17955  | 30.6       | 14           | -F  |             |                      | 25              | .5               |         |
| CULG     | 04  | 0341          | 0345        | 0356        | N14 | W63 | .890  | 17955  | 30.4       | 15           | -F  | C           | 0345                 | 30              | .6               |         |
| LEAR     | 04  | 0345          | 0346        | 0354        | N16 | W60 | .867  | 17955  | 30.7       | 9            | -F  | 3 C         |                      | 24              |                  |         |
| 993 LEAR | 04  | 0400          | 0402        | 0426        | S08 | E04 | .220  | 17969  | 4.5        | 26           | -F  | * C         |                      | 29              |                  | F       |
| GRP98994 | 04  | 0426+9        | 0435        | 0528        | S13 | E05 | .306  | 17969  | 4.6        | 62           | -N  |             |                      | 50              | .5               |         |
|          |     |               | 0513+3      |             |     |     |       |        |            |              |     |             |                      |                 |                  |         |
| CULG     | 04  | 0426          | 0435        | 0515        | S18 | E04 | .382  | 17969  | 4.5        | 49           | -F  | * C         | 0435                 | 30              | .3               |         |
| CULG     | 04  | 0508          | 0513        | 0526        | S11 | E03 | .265  | 17969  | 4.4        | 18           | -N  | * C         | 0513                 | 40              | .4               |         |
| LEAR     | 04  | 0511          | 0516        | 0530        | S12 | E06 | .295  | 17969  | 4.7        | 19           | -N  | * C         |                      | 70              |                  |         |
| GRP98995 | 04  | 0428+4        | 0433+5      | 0449        | N08 | W66 | .911  | 17956  | 30.2       | 21           | -F  |             |                      | 30              |                  |         |
| CULG     | 04  | 0428          | 0433        | 0455        | N08 | W68 | .925  | 17956  | 30.1       | 27           | -F  | C           | 0433                 | 40              |                  |         |
| LEAR     | 04  | 0432          | 0438        | 0442        | N08 | W65 | .904  | 17956  | 30.3       | 10           | -F  | 3 C         |                      | 18              |                  |         |
| GRP98996 | 04  | 0542          | 0546        | 0550        | N11 | W05 | .148  | 17966  | 3.9        | 8            | -N  |             |                      | 50              | .5               | DG      |
| CULG     | 04  | 0542          | 0546        | 0551        | N11 | W05 | .148  | 17966  | 3.9        | 9            | -N  | C           | 0546                 | 50              | .5               | G       |
| PEKG     | 04  | 0547E         | 0547        | 0548        | N11 | W05 | .148  | 17966  | 3.9        | 1D           | -N  | P           | 0547                 | 59              | .6               | D       |
| 997 CULG | 04  | 0551          | 0556        | 0616D       | S28 | W26 | .652  | 17962  | 2.3        | 25D          | -F  | P           | 0556                 | 40              | .5               |         |
| GRP98998 | 04  | 0633+4        | 0639        | 0709        | S10 | W02 | .246  | 17972  | 4.1        | 36           | -N  |             |                      | 190             | 2.0              | FK      |
|          |     |               | 0646+1      |             |     |     |       |        |            |              |     |             |                      |                 |                  |         |
| LEAR     | 04  | 0633          | 0639        | 0700        | S11 | W01 | .261  | 17972  | 4.2        | 27           | -N  | 3 C         |                      | 165             |                  | F       |
| PEKG     | 04  | 0637          | 0646        | 0655        | S12 | W02 | .279  | 17972  | 4.1        | 18           | -N  | C           | 0646                 | 168             | 1.8              | F       |
| CULG     | 04  | 0640E         | 0640U       | 0720        | S11 | W02 | .263  | 17972  | 4.1        | 40D          | 1N  | P           | 0640                 | 220             | 2.2              |         |
| ATHN     | 04  | 0645E         | 0647        | 0707        | S09 | W02 | .229  | 17972  | 4.1        | 22D          | 1B  | 2 V         | 0647                 | 223             | 2.4              |         |
| CULG     | 04  | 0650          | 0656        | 0730        | S07 | E02 | .195  | 17972  | 4.4        | 40           | -N  | C           | 0656                 | 40              | .4               | K       |
| GRP98999 | 04  | 0745E         |             | 0807        | S10 | W34 | .597  | 17979  | 1.8        | 22           | -F  |             |                      |                 |                  |         |
| WEND     | 04  | 0745E         |             | 0802        | S10 | W34 | .597  | 17979  | 1.8        | 17D          | -N  | C           | 0745                 | 25              | .3               |         |
| KANZ     | 04  | 0753E         |             | 0812        | S11 | W34 | .602  | 17979  | 1.8        | 19D          | -F  | 3           |                      |                 |                  |         |
| GRP99000 | 04  | 0757+8        | 0805+3      | 0840        | S12 | W01 | .278  | 17969  | 4.3        | 43           | 1N  |             |                      | 230             | 2.4              | FU      |
|          |     |               | 0824+1      |             |     |     |       |        |            |              |     |             |                      |                 |                  |         |
| KANZ     | 04  | 0757          | 0824        | 0840        | S11 | W01 | .261  | 17969  | 4.3        | 43           | -B  | 3           |                      |                 |                  |         |
| WEND     | 04  | 0804          | 0825        | 0830        | S13 | E01 | .294  | 17969  | 4.4        | 26           | -N  | C           | 0825                 | 75              | .8               |         |
| LEAR     | 04  | 0804          | 0824        | 0845        | S13 | W01 | .294  | 17969  | 4.3        | 41           | -N  | 2 C         |                      | 112             |                  | UF      |
| CATA     | 04  | 0805          | 0805        | 0835        | S13 | W02 | .296  | 17969  | 4.2        | 30           | 1   | 2 C         | 0805                 | 197             | 2.1              |         |
| ATHN     | 04  | 0805          | 0808        | 0846        | S09 | W02 | .229  | 17969  | 4.2        | 41           | 1B  | 2 V         | 0808                 | 255             | 2.7              |         |
| GRP99001 | 04  | 0947+1        | 0954+1      | 1002        | S13 | W01 | .294  | 17969  | 4.3        | 15           | -N  |             |                      | 70              | .7               | F       |
| LEAR     | 04  | 0947          | 0954        | 1000        | S14 | W01 | .311  | 17969  | 4.3        | 13           | -N  | 2 C         |                      | 55              |                  | F       |
| KANZ     | 04  | 0947          | 0955        | 1006        | S13 | W01 | .294  | 17969  | 4.3        | 19           | -N  | *           |                      |                 |                  |         |
| WEND     | 04  | 0948          | 0954        | 1002        | S13 | E00 | .294  | 17969  | 4.4        | 14           | -F  | * C         | 0954                 | 80              | .8               |         |
| 2 KANZ   | 04  | 1003          | 1003        | 1026        | S21 | W24 | .565  | 17962  | 2.6        | 23           | -F  | 3           |                      |                 |                  |         |
| GRP99003 | 04  | 1020+2        | 1022+0      | 1045        | S21 | E90 | 1.000 | 17989  | 11.2       | 25           | -B  |             |                      |                 |                  |         |
| ATHN     | 04  | 1020E         | 1022        | 1056        | S22 | E90 | 1.000 | 17989  | 11.2       | 36D          | 1B  | 2 V         | 1022                 | 159             |                  |         |
| KANZ     | 04  | 1022          | 1022        | 1034        | S20 | E90 | 1.000 | 17989  | 11.2       | 12           | -N  | 3           |                      |                 |                  |         |
| GRP99004 | 04  | 1048+2        | 1055        | 1242        | S12 | W03 | .282  | 17972  | 4.2        | 114          | 1B  |             |                      | 270             | 2.8              | FKLU    |
|          |     |               | 1110+2      |             |     |     |       |        |            |              |     |             |                      |                 |                  |         |
| KANZ     | 04  | 1048          | 1112        | 1350        | S12 | W03 | .282  | 17972  | 4.2        | 182          | 1B  | 3           |                      |                 |                  | FKL     |
| WEND     | 04  | 1049          | 1110        | 1132        | S12 | W02 | .279  | 17972  | 4.3        | 43           | 1B  | C           | 1100                 | 218             | 2.3              |         |
| CATA     | 04  | 1050          | 1112        | 1250D       | S13 | W03 | .298  | 17972  | 4.2        | 120D         | 1   | 2 P         | 1112                 | 450             | 4.1              |         |
| ATHN     | 04  | 1052E         | 1055        | 1223        | S08 | W04 | .220  | 17972  | 4.2        | 91D          | 1B  | 2 V         | 1055                 | 318             | 3.4              |         |
| RAMY     | 04  | 1123E         | 1217        | 1234        | S14 | W03 | .315  | 17972  | 4.2        | 71D          | -N  | 3 C         |                      | 102             |                  | UF      |
| WEND     | 04  | 1147          | 1202        | 1212D       | S11 | E00 | .260  | 17972  | 4.5        | 25D          | 1N  | C           | 1202                 | 210             | 2.2              |         |

## H - ALPHA SOLAR FLARES

67  
Nov 81

NOVEMBER 1981

| Sta      | Day | Start<br>(UT) | Max<br>(UT) | End<br>(UT)     | Lat | CMD | Cent<br>Dist | Hale<br>Plage<br>Region | CMP<br>Day | Dur<br>(Min) | Imp | Obs<br>Type | Area<br>Time<br>(UT) | Measurement<br>Appar<br>(Disk) | Corr<br>(Sq Deg) | Remarks |
|----------|-----|---------------|-------------|-----------------|-----|-----|--------------|-------------------------|------------|--------------|-----|-------------|----------------------|--------------------------------|------------------|---------|
| GRP99005 | 04  | 1330+9        | 1352+6      | 1418D           | S10 | W09 | .258         | 17969                   | 4.2        | 48           | -N  |             |                      | 50                             | .5               | E       |
| HTPR     | 04  | 1330E         |             | 1410            | S07 | W04 | .204         | 17969                   | 4.3        | 40D          | -N  | C           | 1344                 | 120                            | 1.2              | E       |
| HTPR     | 04  | 1330E         |             | 1515            | S15 | W04 | .354         | 17969                   | 4.3        | 105D         | -N  | C           | 1400                 | 60                             | .6               | E       |
| HTPR     | 04  | 1330E         |             | 1342            | S11 | W06 | .279         | 17969                   | 4.1        | 12D          | -N  | C           | 1339                 | 60                             | .6               |         |
| RAMY     | 04  | 1339          | 1358        | 1418            | S10 | W05 | .258         | 17969                   | 4.2        | 39           | -N  | 3 C         |                      | 59                             |                  |         |
| HTPR     | 04  | 1348          | 1352        | 1354            | S11 | W06 | .279         | 17969                   | 4.1        | 6            | -F  | C           | 1352                 | 40                             | .4               |         |
| GRP99006 | 04  | 1422+9        | 1430        | 1500D           | S09 | W02 | .229         | 17969                   | 4.4        | 38           | -N  |             |                      |                                |                  | E       |
|          |     |               | 1446        |                 |     |     |              |                         |            |              |     |             |                      |                                |                  |         |
| HTPR     | 04  | 1422          | 1430        | 1443            | S11 | W07 | .286         | 17969                   | 4.1        | 21           | -F  | C           | 1430                 | 30                             | .3               |         |
| RAMY     | 04  | 1433          | 1446        | 1500            | S09 | W03 | .232         | 17969                   | 4.4        | 27           | -N  | 3 C         |                      | 54                             |                  |         |
| HTPR     | 04  | 1457          | 1508        | 1540            | S10 | W05 | .258         | 17969                   | 4.2        | 43           | -F  | C           | 1508                 | 30                             | .3               | E       |
| HTPR     | 04  | 1516          |             | 1544D           | S10 | W02 | .246         | 17969                   | 4.5        | 28D          | -N  | C           | 1539                 | 40                             | .4               | E       |
| HTPR     | 04  | 1531          |             | 1544D           | S03 | E07 | .173         | 17969                   | 5.2        | 13D          | -F  | C           | 1534                 | 30                             | .3               |         |
| GRP99007 | 04  | 1606+1        | 1606+5      | 1622            | S13 | W04 | .301         | 17969                   | 4.4        | 16           | -N  |             |                      | 60                             | .6               |         |
| HOLL     | 04  | 1606          | 1606        | 1623            | S14 | W05 | .322         | 17969                   | 4.3        | 17           | -B  | 3 C         |                      | 60                             |                  | FE      |
| RAMY     | 04  | 1607          | 1611        | 1620            | S13 | W04 | .301         | 17969                   | 4.4        | 13           | -N  | 3 C         |                      | 68                             |                  |         |
| 8 HOLL   | 04  | 1702          | 1706        | 1716            | S25 | W26 | .623         | 17962                   | 2.8        | 14           | -N  | 3 C         |                      | 36                             |                  |         |
| 9 HOLL   | 04  | 1735          | 1745        | 1755            | S07 | W04 | .204         | 17969                   | 4.4        | 20           | -N  | 3 C         |                      | 43                             |                  |         |
| GRP99010 | 04  | 1825          | 1832+0      | 1844            | S11 | W01 | .261         | 17969                   | 4.7        | 19           | -N  |             |                      | 80                             | .8               | E       |
| HOLL     | 04  | 1825          | 1832        | 1852            | S10 | W05 | .258         | 17969                   | 4.4        | 27           | -B  | 3 C         |                      | 102                            |                  | E       |
| PALE     | 04  | 1830E         | 1832U       | 1836            | S12 | E03 | .282         | 17969                   | 5.0        | 6D           | -N  | 3 C         |                      | 67                             |                  |         |
| GRP99011 | 04  | 1925          | 1943        | 2006            | S07 | W06 | .218         | 17969                   | 4.4        | 41           | -B  |             |                      |                                |                  | FJS     |
|          |     |               | 1949+1      |                 |     |     |              |                         |            |              |     |             |                      |                                |                  |         |
| HOLL     | 04  | 1925          | 1949        | 2011            | S05 | W06 | .189         | 17969                   | 4.4        | 46           | 1B  | 3 C         |                      | 192                            |                  | FS      |
| CULG     | 04  | 1940E         | 1943U       | 2006            | S07 | W06 | .218         | 17969                   | 4.4        | 26D          | -B  | P           | 1943                 | 150                            | 1.5              | J       |
| PALE     | 04  | 1944          | 1950        | 1959            | S08 | W06 | .233         | 17969                   | 4.4        | 15           | -N  | 3 C         |                      | 62                             |                  |         |
|          | 04  | 1929          | 1938        | NO FLARE PATROL |     |     |              |                         |            |              |     |             |                      |                                |                  |         |
| 12 CULG  | 04  | 1948          | 1955        | 2020            | S18 | E54 | .845         | 17983                   | 8.9        | 32           | -N  | C           | 1955                 | 70                             | 1.3              | J       |
| 13 CULG  | 04  | 2029          | 2033        | 2044            | N02 | E30 | .500         | 17981                   | 7.1        | 15           | -F  | C           | 2033                 | 90                             | 1.1              | G       |
| 14 CULG  | 04  | 2034          | 2048        | 2105            | N12 | E15 | .289         | 17980                   | 6.0        | 31           | -F  | C           | 2048                 | 80                             | .8               |         |
| GRP99015 | 04  | 2045+3        | 2105+5      | 2156            | S07 | W06 | .218         | 17969                   | 4.4        | 71           | -N  |             |                      | 110                            | 1.1              | FJK     |
| CULG     | 04  | 2045          | 2105        | 2140U           | S07 | W06 | .218         | 17969                   | 4.4        | 55D          | -N  | P           | 2105                 | 120                            | 1.2              | JK      |
| HOLL     | 04  | 2048          | 2110        | 2156            | S07 | W06 | .218         | 17969                   | 4.4        | 68           | -B  | 3 C         |                      | 111                            |                  | F       |
| 16 CULG  | 04  | 2055          | 2058        | 2107            | S19 | E73 | .968         | 17989                   | 10.3       | 12           | -F  | C           | 2058                 | 20                             |                  |         |
| 17 HOLL  | 04  | 2159          | 2207        | 2216            | S07 | W06 | .218         | 17969                   | 4.5        | 17           | -N  | 3 C         |                      | 31                             |                  | F       |
| 18 CULG  | 04  | 2221E         | 2224U       | 2250            | N13 | W28 | .486         | 17963                   | 2.8        | 29D          | -N  | P           | 2224                 | 80                             | .9               | E       |
| GRP99019 | 04  | 2229          | 2229+6      | 0020            | S08 | W07 | .241         | 17969                   | 4.4        | 111          | -N  |             |                      | 80                             | .8               | EJK     |
|          |     |               | 2324        |                 |     |     |              |                         |            |              |     |             |                      |                                |                  |         |
| HOLL     | 04  | 2229          | 2229        | 2348D           | S13 | W07 | .316         | 17969                   | 4.4        | 79D          | -B  | 3 C         |                      | 52                             |                  | K       |
| HOLL     | 04  | 2229          | 2324        | 2348D           | S13 | W07 | .316         | 17969                   | 4.4        | 79D          | -B  | 3 C         |                      | 166                            |                  | K       |
| CULG     | 04  | 2230E         | 2230U       | 2239            | S13 | W07 | .316         | 17969                   | 4.4        | 9D           | -N  | P           | 2230                 | 90                             | 1.0              |         |
| CULG     | 04  | 2230E         | 2235        | 0020            | S07 | W06 | .218         | 17969                   | 4.5        | 110D         | -N  | P           | 2235                 | 100                            | 1.0              | J       |
| LEAR     | 04  | 2300E         | 2339U       | 0004            | S06 | W06 | .203         | 17969                   | 4.5        | 64D          | -N  | 3 C         |                      | 124                            |                  |         |
| VORO     | 04  | 2318E         |             | 0028            | S07 | W08 | .236         | 17969                   | 4.4        | 70           | -N  | P           | 2332                 | 179                            | 1.8              | E       |
| 20 CULG  | 04  | 2234          | 2241        | 2258            | S15 | E52 | .818         | 17983                   | 8.8        | 24           | -N  | C           | 2241                 | 50                             | .9               |         |
| 21 CULG  | 04  | 2301          | 2306        | 2325            | N03 | E38 | .615         | 17981                   | 7.8        | 24           | -F  | C           | 2306                 | 50                             | .7               |         |
| 22 CULG  | 05  | 0022          | 0031        | 0044            | S19 | E71 | .959         | 17989                   | 10.3       | 22           | -F  | C           | 0031                 | 40                             |                  |         |
| 23 CULG  | 05  | 0040          | 0054        | 0105            | N12 | E13 | .261         | 17980                   | 6.0        | 25           | -F  | C           | 0054                 | 50                             | .5               |         |
| 24 CULG  | 05  | 0116          | 0119        | 0134            | S13 | W08 | .322         | 17969                   | 4.5        | 18           | -N  | C           | 0119                 | 70                             | .8               |         |
| 25 CULG  | 05  | 0143          | 0155        | 0220            | S01 | E43 | .685         | 17984                   | 8.3        | 37           | -F  | C           | 0155                 | 30                             | .4               |         |

68  
Nov 81

# H - ALPHA SOLAR FLARES

NOVEMBER 1981

| Sta      | Day  | Start (UT) | Max (UT) | End (UT)       | Lat | CMD | Gen Dist | Hale. Plage Region | CMP Day | Dur (Min) | Imp | Obs Type | Area Time (UT) | Measurement Appar (Disk) | Corr (Sq Deg) | Remarks |
|----------|------|------------|----------|----------------|-----|-----|----------|--------------------|---------|-----------|-----|----------|----------------|--------------------------|---------------|---------|
| 26       | VORO | 05 0213E   |          | 0224           | S07 | W08 | .235     | 17969              | 4.5     | 11D       | -N  | P        | 0217           | 90                       | .9            | E       |
| 27       | CULG | 05 0233    | 0239     | 0250           | S18 | E82 | .994     | 17989              | 11.3    | 17        | ?N  | C        | 0239           | 70                       |               |         |
|          |      |            | IMP.1    | NO : LEAR      |     |     |          |                    |         |           |     |          |                |                          |               |         |
| 28       | CULG | 05 0330    | 0334     | 0339           | S12 | W08 | .307     | 17969              | 4.5     | 9         | -N  | C        | 0334           | 40                       | .4            |         |
| 29       | CULG | 05 0407    | 0410     | 0445           | S07 | E02 | .194     | 17969              | 5.3     | 38        | -N  | C        | 0410           | 50                       | .5            | D       |
| 30       | CULG | 05 0505    | 0511     | 0606           | S17 | E33 | .626     |                    | 7.7     | 61        | -F  | C        | 0511           | 30                       | .4            | JG      |
| GRP99031 | 05   | 0730+1     | 0732+3   | 0740           | S11 | W12 | .328     | 17969              | 4.4     | 10        | -N  |          |                | 70                       | .7            | V       |
| CATA     | 05   | 0730E      | 0735     | 0740           | S11 | W12 | .328     | 17969              | 4.4     | 10D       | -   | 2 P      | 0735           | 86                       | .6            |         |
| CULG     | 05   | 0731       | 0732     | 0739           | S11 | W13 | .339     | 17969              | 4.3     | 8         | -N  | C        | 0732           | 50                       | .5            | V       |
| GRP99032 | 05   | 0748       | 0756     | 0807           | N16 | W33 | .567     | 17963              | 2.8     | 19        | -N  |          |                |                          |               |         |
| YUNN     | 05   | 0748       | 0756     | 0801           | N16 | W34 | .581     | 17963              | 2.8     | 13        | -N  | C        |                | 48                       | .6            |         |
| KANZ     | 05   | 0757E      | 0757     | 0813           | N16 | W32 | .554     | 17963              | 2.9     | 16D       | -F  | 3        |                |                          |               |         |
| 33       | KANZ | 05 0817    | 0817     | 0825           | S07 | W14 | .305     | 17969              | 4.3     | 8         | -F  | 3        |                |                          |               |         |
| GRP99034 | 05   | 0833+0     | 0833+2   | 0845           | S10 | W12 | .316     | 17969              | 4.5     | 12        | -B  |          |                | 170                      | 1.8           |         |
| KANZ     | 05   | 0833       | 0833     | 0845           | S11 | W12 | .328     | 17969              | 4.5     | 12        | -B  | 3        |                |                          |               |         |
| ATHN     | 05   | 0833E      | 0835     | 0848           | S10 | W11 | .305     | 17969              | 4.5     | 15D       | -B  | 3 V      | 0835           | 127                      | 1.4           |         |
| YUNN     | 05   | 0835E      | 0835     | 0841           | S10 | W13 | .327     | 17969              | 4.4     | 6D        | 1B  | P        |                | 208                      | 2.3           |         |
| 35       | CATA | 05 0905    | 0905     | 0910           | S10 | W10 | .295     | 17969              | 4.6     | 5         | -   | 2 P      | 0905           | 56                       | .6            |         |
| 36       | KANZ | 05 1021    | 1021     | 1037           | S06 | W15 | .309     | 17969              | 4.3     | 16        | -N  | 3        |                |                          |               |         |
| GRP99037 | 05   | 1140+8     | 1150     | 1302           | N16 | W35 | .594     | 17963              | 2.9     | 82        | 1N  |          |                | 250                      | 3.1           | F       |
|          |      |            | 1234+6   |                |     |     |          |                    |         |           |     |          |                |                          |               |         |
| CATA     | 05   | 1140       | 1150     | 1200D          | N18 | W36 | .614     | 17963              | 2.8     | 20D       | -   | 2 P      | 1150           | 68                       | .9            |         |
| KANZ     | 05   | 1148       | 1234     | 1302           | N16 | W35 | .594     | 17963              | 2.9     | 74        | 1N  | 3        |                |                          |               |         |
| RAMY     | 05   | 1150E      | 1234     | 1335           | N16 | W34 | .581     | 17963              | 2.9     | 105D      | 1N  | 3 C      |                | 312                      |               | F       |
| ATHN     | 05   | 1230E      | 1236     | 1253           | N17 | W38 | .682     | 17963              | 2.7     | 23D       | 1N  | 3 V      | 1236           | 191                      | 2.5           |         |
| CATA     | 05   | 1230E      | 1240     | 1245D          | N17 | W36 | .610     | 17963              | 2.8     | 15D       | 1   | 2 P      | 1240           | 253                      | 3.3           |         |
| GRP99038 | 05   | 1148+2     | 1150+2   | 1218           | S03 | W16 | .300     | 17969              | 4.3     | 30        | -N  |          |                |                          |               |         |
| KANZ     | 05   | 1148       | 1152     | 1218           | S03 | W16 | .300     | 17969              | 4.3     | 30        | -N  | 3        |                |                          |               |         |
| CATA     | 05   | 1150       | 1150     | 1200D          | S03 | W16 | .300     | 17969              | 4.3     | 10D       | -   | 2 P      | 1150           | 84                       | .9            |         |
| 39       | ATHN | 05 1233    |          | 1238           | S22 | E90 | .823     | 17996              | 12.3    | 5D        | ?B  | 3 V      | 1238           | 127                      |               |         |
|          |      |            | IMP.1    | NO : KANZ CATA |     |     |          |                    |         |           |     |          |                |                          |               |         |
| 40       | KANZ | 05 1242    | 1242     | 1258           | S17 | E80 | .989     | 17996              | 11.5    | 16        | -N  | 3        |                |                          |               |         |
| GRP99041 | 05   | 1404+2     | 1406+0   | 1440           | S16 | E66 | .929     | 17989              | 10.5    | 36        | -N  |          |                | 60                       |               |         |
| RAMY     | 05   | 1404       | 1406     | 1451           | S17 | E69 | .947     | 17989              | 10.8    | 47        | -N  | 3 C      |                | 81                       |               |         |
| HOLL     | 05   | 1406       | 1406     | 1428           | S15 | E64 | .915     | 17989              | 10.4    | 22        | -N  | 3 C      |                | 38                       |               |         |
| 42       | RAMY | 05 1424    | 1424     | 1430           | S10 | W12 | .316     | 17969              | 4.7     | 6         | -F  | 3 C      |                | 31                       |               |         |
| GRP99043 | 05   | 1447+1     | 1449+1   | 1516           | S13 | W18 | .417     | 17969              | 4.3     | 29        | 1B  |          |                | 190                      | 2.1           |         |
| HOLL     | 05   | 1447       | 1449     | 1523           | S13 | W18 | .417     | 17969              | 4.3     | 36        | 1B  | 3 C      |                | 239                      |               | FE      |
| RAMY     | 05   | 1448       | 1450     | 1508           | S14 | W18 | .428     | 17969              | 4.3     | 20        | -B  | 3 C      |                | 138                      |               | FE      |
| 44       | HOLL | 05 1731    | 1731     | 1749           | S12 | W19 | .419     | 17969              | 4.3     | 18        | -N  | 3 C      |                | 48                       |               | F       |
| 45       | HOL  | 05 1828    | 1831     | 1849           | S08 | W10 | .269     | 17969              | 5.0     | 21        | -F  | 3 C      |                | 47                       |               |         |
| 46       | HOLL | 05 2025    | 2026     | 2034           | S16 | E66 | .929     | 17989              | 10.8    | 9         | -F  | 3 C      |                | 21                       |               |         |
| 47       | CULG | 05 2131    | 2133     | 2138           | S12 | W20 | .431     | 17969              | 4.4     | 7         | -F  | C        | 2133           | 20                       | .2            |         |
| 48       | CULG | 05 2258    | 2313     | 2355           | S23 | W46 | .792     | 17962              | 2.5     | 57        | -N  | C        | 2313           | 80                       | 1.3           | EJ      |

## H - ALPHA SOLAR FLARES

69  
Nov 81

NOVEMBER 1981

| Sta      | Day | Start<br>(UT) | Max<br>(UT) | End<br>(UT) | Lat  | Cmd | Car  | Hale<br>Plage<br>Dist Region | CMP<br>Day (Min) | Dur  | Obs<br>Imp Type | Area<br>Time<br>(UT) | Measurement<br>Appar<br>(Disk) | Corr<br>(Sq Deg) | Remarks |     |
|----------|-----|---------------|-------------|-------------|------|-----|------|------------------------------|------------------|------|-----------------|----------------------|--------------------------------|------------------|---------|-----|
| GRP99049 | 05  | 2310+6        | 2316+2      | 2343        | S12  | W23 | .468 | 17972                        | 4.2              | 33   | -N              |                      | 150                            | 1.7              | EJ      |     |
| CULG     | 05  | 2310          | 2316        | 2348        | S12  | W24 | .481 | 17972                        | 4.2              | 38   | 1B              | C                    | 2316                           | 180              | 2.0     | JT  |
| LEAR     | 05  | 2313          | 2316        | 2349        | S12  | W23 | .468 | 17972                        | 4.2              | 36   | 1N              | 3 C                  |                                | 206              |         | F   |
| VORO     | 05  | 2313          | 2318        | 2338        | S12  | W23 | .468 | 17972                        | 4.2              | 25   | -N              | C                    | 2318                           | 125              | 1.4     | E   |
| PALE     | 05  | 2316          | 2317        | 2334        | S12  | W24 | .481 | 17972                        | 4.2              | 18   | -F              | 2 C                  |                                | 71               |         | E   |
| 50 CULG  | 05  | 2316          | 2320        | 2343        | S13  | E31 | .576 | 17983                        | 8.3              | 27   | -F              | C                    | 2320                           | 60               | .7      | J   |
| GRP99051 | 06  | 0001          | 0001        | 0135        | S12  | W24 | .480 | 17969                        | 4.2              | 94   | -N              |                      |                                | 100              | 1.1     | JK  |
|          |     |               | 0121+3      |             |      |     |      |                              |                  |      |                 |                      |                                |                  |         |     |
| LEAR     | 06  | 0001          | 0001        | 0007        | S11  | W23 | .459 | 17969                        | 4.3              | 6    | -N              | 3 C                  |                                | 70               |         | F   |
| CULG     | 06  | 0004E         | 0122        | 0220        | S14  | W25 | .509 | 17969                        | 4.1              | 136D | -N              | P                    | 0122                           | 70               | .8      | KJF |
| VORO     | 06  | 0120          | 0124        | 0133        | S12  | W23 | .467 | 17969                        | 4.3              | 13   | -N              | C                    | 0124                           | 152              | 1.6     | E   |
| YUNN     | 06  | 0121E         | 0121U       | 0137        | S13  | W25 | .500 | 17969                        | 4.2              | 16D  | -N              | P                    | 0121                           | 80               | 1.0     | E   |
| 52 CULG  | 06  | 0005          | 0008        | 0019        | N15  | W49 | .760 | 17963                        | 2.3              | 14   | -F              | C                    | 0008                           | 30               | .4      |     |
| 53 CULG  | 06  | 0042          | 0048        | 0110        | S24  | W47 | .804 | 17962                        | 2.5              | 28   | -F              | C                    | 0048                           | 40               | .7      |     |
| 54 CULG  | 06  | 0116          | 0121        | 0136        | S14  | E30 | .569 | 17983                        | 8.3              | 20   | -F              | C                    | 0121                           | 40               | .5      |     |
| 55 CULG  | 06  | 0240          | 0310        | 0345        | S20  | E70 | .955 | 17989                        | 11.4             | 65   | -F              | C                    | 0310                           | 60               |         | J   |
| 56 CULG  | 06  | 0245          | 0248        | 0323        | S15  | W23 | .494 | 17969                        | 4.4              | 38   | -N              | C                    | 0248                           | 80               | .5      |     |
| 57 CULG  | 06  | 0257          | 0301        | 0316        | N15  | W50 | .771 | 17963                        | 2.4              | 19   | -F              | C                    | 0301                           | 30               | .4      |     |
| 58 CULG  | 06  | 0341          | 0345        | 0400        | N15  | W50 | .771 | 17963                        | 2.4              | 19   | -F              | C                    | 0345                           | 20               | .3      |     |
| 59 CULG  | 06  | 0419          | 0421        | 0445        | N03  | E17 | .292 | 17981                        | 7.5              | 26   | -F              | C                    | 0421                           | 40               | .4      | J   |
| 60 CULG  | 06  | 0432          | 0440        | 0522        | S21  | E81 | .993 | 17996                        | 12.3             | 50   | ?F              | C                    | 0440                           | 80               |         | J   |
|          |     |               | IMP.1       | NO : PEKG   | LEAR |     |      |                              |                  |      |                 |                      |                                |                  |         |     |
| GRP99061 | 06  | 0435+1        | 0439+1      | 0453        | S13  | W26 | .513 | 17969                        | 4.2              | 18   | -F              |                      |                                |                  |         | D   |
| CULG     | 06  | 0435          | 0439        | 0457        | S14  | W24 | .497 | 17969                        | 4.4              | 22   | -N              | C                    | 0439                           | 80               | .9      |     |
| PEKG     | 06  | 0436          | 0440        | 0449        | S12  | W29 | .543 | 17969                        | 4.0              | 13   | -F              | P                    | 0440                           | 34               | .4      | D   |
| 62 CULG  | 06  | 0615          | 0620        | 0631        | S12  | W25 | .492 | 17969                        | 4.4              | 16   | -F              | C                    | 0620                           | 40               | .4      |     |
| 63 CULG  | 06  | 0650          | 0652        | 0703        | S15  | E33 | .612 | 17983                        | 8.8              | 13   | -F              | C                    | 0652                           | 50               | .7      |     |
| GRP99064 | 06  | 0716+5        | 0725        | 0737        | N12  | W06 | .175 | 17980                        | 5.9              | 21   | -F              |                      |                                |                  |         | E   |
| CULG     | 06  | 0716          | 0725        | 0740        | N12  | W07 | .185 | 17980                        | 5.8              | 24   | -F              | C                    | 0725                           | 40               | .4      |     |
| ISTA     | 06  | 0721          |             | 0734        | N12  | W06 | .173 | 17980                        | 5.9              | 13   | -N              |                      |                                |                  |         | E   |
| GRP99065 | 06  | 0722+3        | 0725+1      | 0731        | S07  | W22 | .415 | 17969                        | 4.7              | 9    | -F              |                      |                                | 60               | .7      |     |
| ISTA     | 06  | 0722          |             | 0730        | S06  | W22 | .409 | 17969                        | 4.7              | 8    | -F              |                      |                                |                  |         | B   |
| CULG     | 06  | 0723          | 0725        | 0734        | S08  | W24 | .450 | 17969                        | 4.5              | 11   | -N              | C                    | 0725                           | 50               | .6      |     |
| LEAR     | 06  | 0725          | 0726        | 0731        | S07  | W22 | .415 | 17969                        | 4.7              | 6    | -F              | 3 C                  |                                | 83               |         |     |
| GRP99066 | 06  | 0745+4        | 0748+2      | 0814        | N12  | W07 | .185 | 17980                        | 5.8              | 29   | -N              |                      |                                | 80               | .8      | J   |
|          |     |               | 0757+2      |             |      |     |      |                              |                  |      |                 |                      |                                |                  |         |     |
| ISTA     | 06  | 0745          |             | 0818        | N12  | W06 | .173 | 17980                        | 5.9              | 33   | -B              |                      |                                |                  |         | B   |
| CULG     | 06  | 0745          | 0749        | 0803        | N12  | W08 | .197 | 17980                        | 5.7              | 18   | -N              | C                    | 0749                           | 50               | .5      |     |
| ABST     | 06  | 0745          | 0748        | 0800        | N13  | W06 | .189 | 17980                        | 5.9              | 15   | -N              | C                    | 0748                           | 131              | 1.3     | DJ  |
| CATA     | 06  | 0745          | 0750        | 0755D       | N12  | W07 | .185 | 17980                        | 5.8              | 100  | -               | 2 P                  | 0750                           | 84               | .9      |     |
| LEAR     | 06  | 0747          | 0757        | 0820        | N12  | W06 | .175 | 17980                        | 5.9              | 33   | -F              | 2 C                  |                                | 114              |         | F   |
| PEKG     | 06  | 0748          | 0759        | 0829        | N12  | W08 | .197 | 17980                        | 5.7              | 40   | -N              | C                    | 0759                           | 97               | 1.0     | E   |
| KANZ     | 06  | 0757E         |             | 0757D       | N11  | W08 | .185 | 17980                        | 5.7              |      | -N              | 2                    |                                |                  |         |     |
| 67 CATA  | 06  | 0750          | 0750        | 0755D       | S06  | W28 | .495 | 17969                        | 4.2              | 5D   | -               | 2 P                  | 0750                           | 56               | .7      |     |
| GRP99068 | 06  | 0925+8        | 0930+4      | 0948        | S07  | W26 | .472 | 17969                        | 4.4              | 23   | -N              |                      |                                |                  |         | F   |
|          |     |               | 0945        |             |      |     |      |                              |                  |      |                 |                      |                                |                  |         |     |
| CATA     | 06  | 0925          | 0930        | 0940D       | S07  | W29 | .514 | 17969                        | 4.2              | 15D  | -               | 2 P                  | 0930                           | 112              | 1.4     |     |
| LEAR     | 06  | 0933          | 0934        | 0945        | S10  | W23 | .451 | 17969                        | 4.7              | 12   | -F              | 2 C                  |                                | 36               |         | F   |
| KANZ     | 06  | 0933          | 0933        | 0948        | S07  | W28 | .500 | 17969                        | 4.3              | 15   | -N              | 3                    |                                |                  |         |     |
| ATHN     | 06  | 0944E         | 0945        | 0951        | S04  | W25 | .441 | 17969                        | 4.5              | 7D   | -B              | 2 V                  | 0945                           | 95               | 1.1     |     |

## H - ALPHA SOLAR FLARES

NOVEMBER 1981

| Sta      | Day | Start<br>(UT) | Max<br>(UT)             | End<br>(UT) | Lat | CMD | Hale<br>Cen<br>Dist | Plage<br>Region | CMP<br>Day | Dur<br>(Min) | Imp | Obs<br>Type | Area<br>Time<br>(UT) | Measurement<br>Appar<br>(Disk) | Corr<br>(Sq Deg) | Remarks |
|----------|-----|---------------|-------------------------|-------------|-----|-----|---------------------|-----------------|------------|--------------|-----|-------------|----------------------|--------------------------------|------------------|---------|
| GRP99069 | 06  | 0954+8        | 1003<br>1018+2          | 1040        | S13 | E24 | .488                | 17983           | 8.2        | 46           | -B  |             |                      | 140                            | 1.6              | E       |
| HTPR     | 06  | 0954          | 1019                    | 1039        | S13 | E22 | .463                | 17983           | 8.1        | 45           | -B  | * C         | 1019                 | 150                            | 1.5              | E       |
| ATHN     | 06  | 1002          | 1003                    | 1044        | S17 | E24 | .536                | 17983           | 8.2        | 42           | -B  | 2 V         | 1003                 | 127                            | 1.6              |         |
| KANZ     | 06  | 1010E         | 1018                    | 1030D       | S13 | E26 | .513                | 17983           | 8.4        | 20D          | -B  | *           |                      |                                |                  |         |
| CATA     | 06  | 1020          | 1020                    | 1040        | S14 | E24 | .497                | 17983           | 8.2        | 20           | -   | * C         | 1020                 | 140                            | 1.7              |         |
| GRP99070 | 06  | 1034+2        | 1035+3                  | 1110        | S04 | W29 | .500                | 17969           | 4.3        | 36           | -N  |             |                      | 80                             | .9               | EL      |
| ATHN     | 06  | 1034          | 1035                    | 1039D       | S05 | W26 | .875                | 17969           | 4.5        | 5D           | -N  | 2 V         | 1035                 | 32                             | .7               |         |
| HTPR     | 06  | 1036          | 1038                    | 1100        | S04 | W30 | .515                | 17969           | 4.2        | 24           | -N  | * C         | 1038                 | 80                             | .9               | E       |
| KANZ     | 06  | 1037E         | 1038                    | 1115        | S04 | W29 | .500                | 17969           | 4.3        | 38D          | -B  | *           |                      |                                |                  | L       |
| CATA     | 06  | 1040E         | 1040                    | 1110D       | S03 | W29 | .497                | 17969           | 4.3        | 30D          | -   | * P         | 1040                 | 112                            | 1.3              |         |
| GRP99071 | 06  | 1223+1        | 1227+2                  | 1233        | S13 | E24 | .488                | 17983           | 8.3        | 10           | -N  |             |                      |                                |                  | E       |
| RAMY     | 06  | 1208          | 1303                    | 1319        | S14 | E24 | .497                | 17983           | 8.3        | 71           | -F  | 3 C         |                      | 53                             |                  |         |
| KANZ     | 06  | 1223          | 1227                    | 1231        | S13 | E24 | .488                | 17983           | 8.3        | 8            | -N  | 2           |                      |                                |                  |         |
| HTPR     | 06  | 1224          | 1229                    | 1233        | S13 | E21 | .451                | 17983           | 8.1        | 9            | -N  | C           | 1229                 | 50                             | .5               | E       |
| 72 KANZ  | 06  | 1243          | 1247                    | 1254        | S09 | W18 | .376                | 17969           | 5.2        | 11           | -F  | *           |                      |                                |                  |         |
| GRP99073 | 06  | 1246+9        | 1316+2<br>1351          | 1416        | N17 | W49 | .764                | 17963           | 2.9        | 90           | -N  |             |                      |                                |                  | E       |
| RAMY     | 06  | 1246          | 1316                    | 1419        | N18 | W48 | .755                | 17963           | 2.9        | 93           | -N  | 3 C         |                      | 142                            |                  |         |
| KANZ     | 06  | 1258          | 1318                    | 1416        | N17 | W49 | .764                | 17963           | 2.9        | 78           | -N  | 3           |                      |                                |                  |         |
| HTPR     | 06  | 1310          | 1316                    | 1345        | N16 | W52 | .793                | 17963           | 2.6        | 35           | -B  | C           | 1316                 | 60                             | .7               | E       |
| HTPR     | 06  | 1350          | 1351                    | 1353        | N13 | W58 | .848                | 17963           | 2.2        | 3            | -B  | C           | 1351                 | 10                             | .2               |         |
| GRP99074 | 06  | 1302+8        | 1317+3                  | 1335        | S07 | W30 | .528                | 17969           | 4.3        | 33           | -B  |             |                      | 60                             | .7               | E       |
| RAMY     | 06  | 1302          | 1317                    | 1438        | S07 | W30 | .528                | 17969           | 4.3        | 156          | -B  | * C         |                      | 174                            |                  |         |
| HTPR     | 06  | 1306          | 1318                    | 1333        | S07 | W33 | .569                | 17969           | 4.1        | 27           | -B  | C           | 1318                 | 60                             | .7               | E       |
| KANZ     | 06  | 1310          | 1318                    | 1334        | S07 | W31 | .542                | 17969           | 4.2        | 24           | -N  | *           |                      |                                |                  |         |
| ATHN     | 06  | 1319E         | 1320                    | 1336        | S04 | W29 | .500                | 17969           | 4.4        | 17D          | -B  | * V         | 1320                 | 64                             | .8               |         |
| 75 HTPR  | 06  | 1405          | 1412                    | 1417        | S14 | W29 | .557                | 17969           | 4.4        | 12           | -F  | * C         | 1412                 | 30                             | .3               |         |
| GRP99076 | 06  | 1539+7        | 1549                    | 1555D       | S08 | W33 | .574                | 17969           | 4.2        | 16           | -N  |             |                      | 60                             | .7               |         |
| RAMY     | 06  | 1539          | 1604                    | 1650        | S08 | W33 | .574                | 17969           | 4.2        | 71           | -N  | 3 C         |                      | 152                            |                  |         |
| HOLL     | 06  | 1546          | 1549                    | 1555        | S07 | W31 | .542                | 17969           | 4.3        | 9            | -F  | 3 C         |                      | 53                             |                  |         |
| HTPR     | 06  | 1546          |                         | 1551D       | S08 | W33 | .574                | 17969           | 4.2        | 5D           | -N  | C           | 1548                 | 80                             | .9               |         |
| 77 HOLL  | 06  | 1703          | 1708                    | 1714        | S10 | W27 | .504                | 17969           | 4.7        | 11           | -F  | 3 C         |                      | 37                             |                  | F       |
| 78 HOLL  | 06  | 1704          | 1704                    | 1712        | S14 | E22 | .473                | 17983           | 8.4        | 8            | -F  | 3 C         |                      | 22                             |                  |         |
| GRP99079 | 06  | 1721+6        | 1730+5                  | 1751        | S07 | W29 | .514                | 17969           | 4.5        | 30           | -N  |             |                      | 90                             | 1.0              | F       |
| HOLL     | 06  | 1721          | 1735U                   | 1757        | S08 | W31 | .546                | 17969           | 4.4        | 36           | -N  | 3 C         |                      | 116                            |                  | F       |
| RAMY     | 06  | 1727          | 1730                    | 1744        | S07 | W28 | .500                | 17969           | 4.6        | 17           | -B  | 3 C         |                      | 66                             |                  | FE      |
| 80 HOLL  | 06  | 1729          | 1743                    | 1814        | S17 | E57 | .866                | 17989           | 11.0       | 45           | -F  | 3 C         |                      | 51                             |                  | F       |
| 81 HOLL  | 06  | 1838          | 1910                    | 2003        | S07 | W30 | .528                | 17969           | 4.5        | 85           | -N  | 3 C         |                      | 131                            |                  | FH      |
| 82 HOLL  | 06  | 1956          | 1956                    | 2004        | S13 | E20 | .439                | 17983           | 8.3        | 8            | -F  | 3 C         |                      | 20                             |                  | F       |
| 83 HOLL  | 06  | 2017          | 2026<br>IMP.1 NO : CULG | 2046        | S07 | W35 | .596                | 17969           | 4.2        | 29           | ?N  | 3 C         |                      | 231                            |                  | F       |
| 84 HOLL  | 06  | 2121          | 2130                    | 2133        | N30 | W48 | .791                | 17964           | 3.3        | 12           | -F  | 3 C         |                      | 18                             |                  |         |
| GRP99085 | 06  | 2134+1        | 2138+0                  | 2149        | S14 | E21 | .461                | 17983           | 8.5        | 15           | -F  |             |                      | 25                             | .3               |         |
| CULG     | 06  | 2134          | 2138                    | 2147        | S14 | E21 | .461                | 17983           | 8.5        | 13           | -F  | C           | 2138                 | 20                             | .2               |         |
| HOLL     | 06  | 2135          | 2138                    | 2150        | S14 | E21 | .461                | 17983           | 8.5        | 15           | -N  | 3 C         |                      | 34                             |                  |         |
| GRP99086 | 06  | 2217          | 2220                    | 2259        | S09 | W28 | .511                | 17969           | 4.8        | 42           | -N  |             |                      |                                |                  | J       |
| CULG     | 06  | 2217          | 2220                    | 2259        | S08 | W27 | .491                | 17969           | 4.9        | 42           | -N  | C           | 2220                 | 70                             | .8               | EJ      |
| HOLL     | 06  | 2229E         | 2229U                   | 2231D       | S11 | W30 | .550                | 17969           | 4.7        | 2D           | -N  | 3 C         |                      | 50                             |                  | F       |
| 87 CULG  | 06  | 2258          | 2301                    | 2316        | N11 | W55 | .818                | 17963           | 2.8        | 18           | -F  | C           | 2301                 | 60                             | 1.0              |         |

## H - ALPHA SOLAR FLARES

71  
Nov 81

NOVEMBER 1981

| Sta                          | Day | Start<br>(UT) | Max<br>(UT)  | End<br>(UT) | Lat | CMD | Hale        |                 | CMP  | Dur<br>(Min) | Imp | Obs<br>Type | Area Measurement |                 |                  | Remarks |
|------------------------------|-----|---------------|--------------|-------------|-----|-----|-------------|-----------------|------|--------------|-----|-------------|------------------|-----------------|------------------|---------|
|                              |     |               |              |             |     |     | Con<br>Dist | Plage<br>Region |      |              |     |             | Time<br>(UT)     | Appar<br>(Disk) | Corr<br>(Sq Deg) |         |
| GRP99088                     | 06  | 2332+3        | 2335<br>2342 | 2354        | S20 | E44 | .759        | 17989           | 10.3 | 22           | -N  |             |                  |                 |                  | D       |
| CULG                         | 06  | 2332          | 2335         | 0002        | S18 | E44 | .750        | 17989           | 10.3 | 30           | -N  | C           | 2335             | 40              | .6               |         |
| VORO                         | 06  | 2333E         |              | 2345D       | S20 | E45 | .769        | 17989           | 10.4 | 12D          | -N  | P           | 2338             | 108             | 1.8              | D       |
| LEAR                         | 06  | 2335          | 2342         | 2345        | S20 | E43 | .749        | 17989           | 10.2 | 10           | -F  | 2 C         |                  | 17              |                  |         |
| GRP99089                     | 07  | 0011+4        | 0016+5       | 0030        | S07 | W38 | .635        | 17969           | 4.2  | 19           | -B  |             |                  | 120             | 1.5              | H       |
| PEKG                         | 07  | 0011          | 0018         | 0030        | S06 | W39 | .645        | 17969           | 4.1  | 19           | -B  | C           | 0018             | 139             | 1.8              | E       |
| CULG                         | 07  | 0014          | 0016         | 0034        | S07 | W38 | .635        | 17969           | 4.2  | 20           | -B  | C           | 0016             | 100             | 1.3              | E       |
| LEAR                         | 07  | 0015          | 0021         | 0030        | S07 | W36 | .609        | 17969           | 4.3  | 15           | -N  | 3 C         |                  | 103             |                  | F       |
| VORO                         | 07  | 0019E         |              | 0030        | S07 | W38 | .635        | 17969           | 4.2  | 11D          | -B  | P           | 0022             | 134             | 1.8              | DH      |
| GRP99090                     | 07  | 0133+1        | 0135+1       | 0216        | S13 | E20 | .438        | 17983           | 8.6  | 43           | -F  |             |                  | 70              | .8               | F       |
| CULG                         | 07  | 0133U         | 0135U        | 0136D       | S13 | E23 | .475        | 17983           | 8.8  | 3D           | -N  | P           | 0135             | 70              | .8               |         |
| LEAR                         | 07  | 0134          | 0136         | 0216        | S13 | E18 | .415        | 17983           | 8.4  | 42           | -F  | 3 C         |                  | 83              |                  | F       |
| GRP99091                     | 07  | 0259+5        | 0304+1       | 0333        | S07 | W40 | .661        | 17969           | 4.1  | 34           | 1N  |             |                  | 200             | 2.7              | H       |
| LEAR                         | 07  | 0259          | 0304         | 0331        | S07 | W40 | .661        | 17969           | 4.1  | 32           | 1N  | 3 C         |                  | 216             |                  | FH      |
| PEKG                         | 07  | 0304          | 0305         | 0334        | S05 | W40 | .655        | 17969           | 4.1  | 30           | 1N  | C           | 0305             | 189             | 2.6              | E       |
| CULG                         | 07  | 0311E         | 0311U        | 0315D       | S07 | W39 | .648        | 17969           | 4.2  | 4D           | -N  | C           | 0311             | 90              | 1.2              |         |
| GRP99092                     | 07  | 0354+5        | 0356+5       | 0416        | S07 | W39 | .648        | 17969           | 4.2  | 22           | 1B  |             |                  | 370             | 4.8              | FHV     |
| LEAR                         | 07  | 0354          | 0356         | 0416        | S07 | W39 | .648        | 17969           | 4.2  | 22           | 1B  | 3 C         |                  | 413             |                  | FH      |
| CULG                         | 07  | 0354          | 0356         | 0422D       | S07 | W39 | .648        | 17969           | 4.2  | 28D          | 2B  | P           | 0356             | 400             | 5.2              | V       |
| PEKG                         | 07  | 0359          | 0401         | 0415        | S06 | W40 | .658        | 17969           | 4.2  | 16           | 1N  | C           | 0401             | 294             | 4.1              | FT      |
| GRP99093                     | 07  | 0357          | 0358         | 0414        | S16 | E47 | .772        | 17989           | 10.7 | 17           | -F  |             |                  | 40              | .6               |         |
| LEAR                         | 07  | 0357          | 0358         | 0407        | S17 | E47 | .775        | 17989           | 10.7 | 10           | -F  | 3 C         |                  | 36              |                  |         |
| CULG                         | 07  | 0403E         | 0403U        | 0420        | S15 | E48 | .778        | 17989           | 10.8 | 17D          | -F  | P           | 0403             | 40              | .6               |         |
| GRP99094                     | 07  | 0432+8        | 0438         | 0525        | S13 | E20 | .438        | 17983           | 8.7  | 53           | -F  |             |                  |                 |                  |         |
| LEAR                         | 07  | 0432          | 0438         | 0525        | S13 | E19 | .426        | 17983           | 8.6  | 53           | -F  | 3 C         |                  | 81              |                  | F       |
| PEKG                         | 07  | 0440          | 0446         | 0446D       | S14 | E21 | .460        | 17983           | 8.8  | 6D           | -F  | P           | 0446             | 55              | .6               | D       |
| 95 LEAR                      | 07  | 0449          | 0449         | 0509        | S10 | W31 | .556        | 17969           | 4.9  | 20           | -F  | 3 C         |                  | 20              |                  |         |
| 96 ABST                      | 07  | 0613          | 0617         | 0625        | S04 | W40 | .652        | 17969           | 4.3  | 12           | 2F  | C           | 0617             | 174             | 2.3              | EK      |
| IMP.1 NO : LEAR TACH CULG    |     |               |              |             |     |     |             |                 |      |              |     |             |                  |                 |                  |         |
| GRP99097                     | 07  | 0707          | 0719+9       | 0750        | S04 | W40 | .652        | 17969           | 4.3  | 43           | 1N  |             |                  |                 |                  | FK      |
| ABST                         | 07  | 0707          | 0719         | 0805        | S05 | W40 | .655        | 17969           | 4.3  | 58           | 2N  | * C         | 0719             | 436             | 5.9              | FK      |
| CATA                         | 07  | 0715E         | 0715         | 0715D       | S03 | W41 | .663        | 17969           | 4.2  |              |     | * P         | 0715             | 56              | .8               |         |
| CULG                         | 07  | 0716E         | 0723         | 0728D       | S05 | W40 | .655        | 17969           | 4.3  | 12D          | 1N  | * P         | 0723             | 160             | 2.1              |         |
| LEAR                         | 07  | 0718          | 0720         | 0747        | S05 | W40 | .655        | 17969           | 4.3  | 29           | 1N  | * C         |                  | 308             |                  | F       |
| ATHN                         | 07  | 0720E         | 0723         | 0741        | S06 | W42 | .683        | 17969           | 4.2  | 21D          | -B  | 2 V         | 0723             | 95              | 1.3              |         |
| PEKG                         | 07  | 0725E         | 0727         | 0750        | S03 | W41 | .663        | 17969           | 4.2  | 25D          | 1B  | * P         | 0727             | 302             | 4.2              | FT      |
| KANZ                         | 07  | 0727E         | 0728         | 0753        | S04 | W40 | .652        | 17969           | 4.3  | 26D          | 1B  | *           |                  |                 |                  |         |
| 98 ABST                      | 07  | 0708          | 0711         | 0720        | S24 | W65 | .934        | 17962           | 2.4  | 12           | 2N  | C           | 0711             | 87              |                  | EJ      |
| IMP.1 NO : LEAR PEKG CULG    |     |               |              |             |     |     |             |                 |      |              |     |             |                  |                 |                  |         |
| 99 ABST                      | 07  | 0750          | 0751         | 0822        | S14 | E14 | .384        | 17983           | 8.4  | 32           | -N  | C           | 0751             | 131             | 1.4              | EV      |
| 100 ABST                     | 07  | 0828          | 0831         | 0838        | S14 | E15 | .394        | 17983           | 8.5  | 10           | -N  | C           | 0831             | 87              | .9               | DJ      |
| GRP99101                     | 07  | 0844+2        | 0851+3       | 0919        | S13 | E20 | .438        | 17983           | 8.9  | 35           | -F  |             |                  |                 |                  | DJ      |
| ABST                         | 07  | 0844          | 0851         | 0902        | S13 | E21 | .450        | 17983           | 8.9  | 18           | -N  | C           | 0851             | 87              | .9               | DJ      |
| LEAR                         | 07  | 0846          | 0852         | 0919        | S14 | E19 | .437        | 17983           | 8.8  | 33           | -F  | 3 C         |                  | 24              |                  |         |
| KANZ                         | 07  | 0850E         | 0854         | 0922        | S13 | E20 | .438        | 17983           | 8.9  | 32D          | -F  | 2           |                  |                 |                  |         |
| 07 1138 1214 NO FLARE PATROL |     |               |              |             |     |     |             |                 |      |              |     |             |                  |                 |                  |         |
| 102 RAMY                     | 07  | 1240          | 1240         | 1322        | S11 | W36 | .626        | 17969           | 4.8  | 42           | -F  | 3 C         |                  | 101             |                  |         |
| 103 RAMY                     | 07  | 1309          | 1335         | 1353        | S15 | E13 | .387        | 17983           | 8.5  | 44           | -N  | 3 C         |                  | 55              |                  |         |
| 104 HOLL                     | 07  | 1557E         | 1558U        | 1636        | S19 | E35 | .660        | 17989           | 10.3 | 39D          | -N  | 3 C         |                  | 124             |                  | F       |
| 105 HOLL                     | 07  | 1626          | 1626         | 1638        | S17 | E13 | .413        | 17983           | 8.7  | 12           | -F  | 3 C         |                  | 33              |                  | F       |
| 106 HOLL                     | 07  | 1640          | 1701         | 1711        | S18 | E36 | .664        | 17989           | 10.4 | 31           | -N  | 3 C         |                  | 57              |                  | F       |



## H - ALPHA SOLAR FLARES

NOVEMBER 1981

| Sta      | Day | Start<br>(UT) | Max<br>(UT) | End<br>(UT)     | Lat | CMD | Hale        |                 | CMP<br>Day | Dur<br>(Min) | Obs<br>Imp | Type | Area Measurement |                 |                  | Remarks |
|----------|-----|---------------|-------------|-----------------|-----|-----|-------------|-----------------|------------|--------------|------------|------|------------------|-----------------|------------------|---------|
|          |     |               |             |                 |     |     | Con<br>Dist | Plage<br>Region |            |              |            |      | Time<br>(UT)     | Appar<br>(Disk) | Corr<br>(Sq Deg) |         |
| GRP99107 | 07  | 1644+0        | 1644+1      | 1658            | S09 | W39 | .655        | 17969           | 4.8        | 14           | -N         |      |                  | 30              | .4               | F       |
| RAMY     | 07  | 1644          | 1644        | 1652            | S09 | W39 | .655        | 17969           | 4.8        | 8            | -N         | 3 C  |                  | 22              |                  |         |
| HOLL     | 07  | 1644          | 1645        | 1703            | S09 | W39 | .655        | 17969           | 4.8        | 19           | -N         | 3 C  |                  | 39              |                  | F       |
| 108 HOLL | 07  | 1723E         | 1812        | 1818            | S18 | E35 | .653        | 17989           | 10.3       | 55D          | -B         | 3 C  |                  | 113             |                  | F       |
|          | 07  | 1748          | 1800        | NO FLARE PATROL |     |     |             |                 |            |              |            |      |                  |                 |                  |         |
| 109 HOLL | 07  | 1817          | 1824        | 1835            | S09 | W39 | .655        | 17969           | 4.8        | 18           | -F         | 3 C  |                  | 32              |                  | F       |
| GRP99110 | 07  | 1820          | 1828        | 1927            | S19 | E34 | .649        | 17989           | 10.3       | 67           | -B         |      |                  |                 |                  | F       |
| HOLL     | 07  | 1820          | 1828        | 1927            | S19 | E34 | .649        | 17989           | 10.3       | 67           | 1B         | 3 C  |                  | 242             |                  | F       |
| PALE     | 07  | 1821E         | 1821U       | 1843D           | S19 | E35 | .660        | 17989           | 10.4       | 22D          | -N         | 2 C  |                  | 50              |                  | F       |
| 111 HOLL | 07  | 1851          | 1851        | 1903            | S09 | W41 | .680        | 17969           | 4.7        | 12           | -F         | 3 C  |                  | 22              |                  | F       |
| 112 RAMY | 07  | 1920          | 1926        | 1950            | S16 | E56 | .855        | 17996           | 12.0       | 30           | -F         | 3 C  |                  | 26              |                  |         |
| 113 HOLL | 07  | 2033          | 2036        | 2042            | N18 | E57 | .843        | 17998           | 12.1       | 9            | -N         | 3 C  |                  | 42              |                  |         |
| 114 CULG | 07  | 2327          | 2337        | 2344D           | S19 | E31 | .617        | 17989           | 10.3       | 17D          | -N         | P    | 2337             | 50              | .7               | J       |
| GRP99115 | 07  | 2353          | 2358        | 0041            | N17 | W69 | .932        | 17963           | 2.8        | 48           | -F         |      |                  |                 |                  |         |
| CULG     | 08  | 0020E         | 0020U       | 0050            | N16 | W71 | .944        | 17963           | 2.7        | 30D          | -F         | P    | 0020             | 30              |                  |         |
| LEAR     | 07  | 2353          | 2358        | 0032            | N19 | W67 | .921        | 17963           | 3.0        | 39           | -F         | 3 C  |                  | 22              |                  |         |
| 116 CULG | 08  | 0020E         | 0020U       | 0040            | S13 | E04 | .294        | 17983           | 8.3        | 20D          | -F         | C    | 0020             | 40              | .4               |         |
| 117 CULG | 08  | 0039          | 0043        | 0050            | S20 | E40 | .718        | 17989           | 11.0       | 11           | -F         | C    | 0043             | 30              | .4               |         |
| 118 CULG | 08  | 0051          | 0102        | 0126            | S16 | E52 | .820        | 17996           | 11.9       | 35           | -F         | C    | 0102             | 50              | .9               |         |
| 119 CULG | 08  | 0100          | 0103        | 0144            | S19 | E30 | .605        | 17989           | 10.3       | 44           | -F         | C    | 0103             | 80              | 1.0              | KJ      |
| 120 CULG | 08  | 0215          | 0221        | 0232            | S10 | W45 | .730        | 17969           | 4.7        | 17           | -F         | C    | 0221             | 40              | .6               |         |
| GRP99121 | 08  | 0358E         | 0358        | 0409            | S19 | E28 | .583        | 17989           | 10.3       | 11           | 1B         |      |                  | 270             | 3.3              | Z       |
| PEKG     | 08  | 0358E         | 0358        | 0409            | S20 | E27 | .581        | 17989           | 10.2       | 11D          | 1B         | P    | 0358             | 323             | 4.1              | FZ      |
| MITK     | 08  | 0359E         |             | 0408            | S19 | E28 | .583        | 17989           | 10.3       | 9D           | 1N         | C    | 0359             | 320             | 4.1              | E       |
| CULG     | 08  | 0359E         | 0359U       | 0425            | S19 | E30 | .605        | 17989           | 10.4       | 26D          | 1B         | C    | 0359             | 160             | 2.1              |         |
| 122 ABST | 08  | 0602          | 0607        | 0615            | S13 | E06 | .304        | 17983           | 8.7        | 13           | -F         | C    | 0607             | 87              | .9               | D       |
| GRP99123 | 08  | 0622          | 0626        | 0650            | S14 | E01 | .304        | 17983           | 8.3        | 28           | -F         |      |                  |                 |                  | J       |
|          |     |               | 0638        |                 |     |     |             |                 |            |              |            |      |                  |                 |                  |         |
| ABST     | 08  | 0622          | 0626        | 0645            | S13 | W02 | .289        | 17983           | 8.1        | 23           | -F         | C    | 0628             | 87              | .9               | DJ      |
| ABST     | 08  | 0636          | 0638        | 0650            | S15 | E05 | .331        | 17983           | 8.6        | 14           | -F         | C    | 0638             | 87              | .9               | DJ      |
| 124 ABST | 08  | 0725          | 0731        | 0750            | S09 | W44 | .715        | 17969           | 5.0        | 25           | -F         | C    | 0731             | 87              | 1.2              | D       |
| GRP99125 | 08  | 0755+3        | 0756+3      | 0804            | S13 | W49 | .782        | 17969           | 4.7        | 9            | -F         |      |                  |                 |                  | DV      |
| KANZ     | 08  | 0755          | 0756        | 0802            | S14 | W49 | .785        | 17969           | 4.7        | 7            | -F         | 1    |                  |                 |                  |         |
| ABST     | 08  | 0758          | 0759        | 0805            | S13 | W50 | .792        | 17969           | 4.6        | 7            | -N         | C    | 0759             | 87              | 1.5              | DV      |
| 126 KANZ | 08  | 0951          | 0955        | 0959            | N28 | W67 | .927        | 17964           | 3.4        | 8            | -F         | 1    |                  |                 |                  |         |
| 127 KANZ | 08  | 1054          | 1058        | 1117            | S17 | E04 | .359        | 17983           | 8.8        | 23           | -N         | 1    |                  |                 |                  |         |
| 128 KANZ | 08  | 1109          | 1113        | 1121            | S26 | E53 | .859        |                 | 12.4       | 12           | -F         | 2    |                  |                 |                  | G       |
| 129 KANZ | 08  | 1141          | 1153        | 1200            | S15 | E39 | .681        | 17989           | 11.4       | 19           | -F         | 1    |                  |                 |                  |         |
| 130 KANZ | 08  | 1157          | 1208        | 1216            | S08 | W58 | .857        | 17972           | 4.1        | 19           | -N         | 2    |                  |                 |                  |         |
| 131 KANZ | 08  | 1208          | 1208        | 1216            | N20 | E40 | .672        | 17992           | 11.5       | 8            | -N         | 2    |                  |                 |                  |         |
|          | 08  | 1255          | 1403        | NO FLARE PATROL |     |     |             |                 |            |              |            |      |                  |                 |                  |         |
| 132 KANZ | 08  | 1412          | 1412        | 1420            | S06 | W58 | .855        | 17969           | 4.2        | 8            | -N         | 2    |                  |                 |                  |         |
|          | 08  | 1429          | 1524        | NO FLARE PATROL |     |     |             |                 |            |              |            |      |                  |                 |                  |         |

## H - ALPHA SOLAR FLARES

73  
Nov 81

NOVEMBER 1981

| Sta      | Day | Start<br>(UT) | Max<br>(UT) | End<br>(UT)     | Lat | CND | Hale        |                 | CMP  | Dur<br>(Min) | Obs<br>Imp | Type | Area Measurement |                 |                  | Remarks |
|----------|-----|---------------|-------------|-----------------|-----|-----|-------------|-----------------|------|--------------|------------|------|------------------|-----------------|------------------|---------|
|          |     |               |             |                 |     |     | Cen<br>Dist | Plage<br>Region |      |              |            |      | Time<br>(UT)     | Appar<br>(Disk) | Corr<br>(Sq Deg) |         |
|          | 08  | 1641          | 1645        | NO FLARE PATROL |     |     |             |                 |      |              |            |      |                  |                 |                  |         |
| 133 CULG | 08  | 1949E         | 1950U       | 2040D           | S17 | E26 | .544        | 17989           | 10.8 | 51D          | ?N         | C    | 1950             | 200             | 2.4              |         |
|          |     |               | IMP.1       | NO : HOLL       |     |     |             |                 |      |              |            |      |                  |                 |                  |         |
|          | 08  | 2212          | 2215        | NO FLARE PATROL |     |     |             |                 |      |              |            |      |                  |                 |                  |         |
| 134 VORO | 08  | 2315E         |             | 2339D           | S17 | E40 | .702        | 17996           | 12.0 | 24D          | 7B         | P    | 2320             | 179             | 2.3              | DH      |
|          |     |               | IMP.1       | NO : LEAR       |     |     |             |                 |      |              |            |      |                  |                 |                  |         |
| GRP99135 | 09  | 0023          | 0027+6      | 0041            | N19 | E32 | .572        | 17992           | 11.4 | 18           | 1N         |      |                  | 180             | 2.2              | F       |
| PURP     | 09  | 0023          | 0043        | 0100            | N19 | E31 | .559        | 17992           | 11.3 | 37           | -F         | C    | 0043             | 145             | 1.8              |         |
| MANI     | 09  | 0025E         | 0027        | 0040            | N20 | E32 | .577        | 17992           | 11.4 | 15D          | -B         | 1 V  |                  | 150             | 1.9              | F       |
| PEKG     | 09  | 0032E         | 0033        | 0041            | N19 | E32 | .572        | 17992           | 11.4 | 9D           | 1F         | P    | 0033             | 218             | 2.7              | F       |
| 136 PURP | 09  | 0100          | 0109        | 0127            | S17 | W05 | .361        | 17983           | 8.7  | 27           | -F         | C    | 0109             | 145             | 1.6              | E       |
| 137 PEKG | 09  | 0412          | 0503        | 0503D           | N19 | E29 | .534        | 17992           | 11.3 | 51D          | -N         | P    | 0503             | 118             | 1.4              | E       |
| GRP99138 | 09  | 0419+6        | 0454+5      | 0523D           | S20 | E18 | .492        | 17989           | 10.5 | 124          | 1N         |      |                  | 180             | 2.1              | FZ      |
|          |     |               | 0615        |                 |     |     |             |                 |      |              |            |      |                  |                 |                  |         |
| PEKG     | 09  | 0419          | 0459        | 0503D           | S19 | E22 | .519        | 17989           | 10.8 | 44D          | -N         | P    | 0459             | 147             | 1.8              | FZ      |
| PURP     | 09  | 0425          | 0454        | 0511D           | S21 | E23 | .549        | 17989           | 10.9 | 106D         | 1N         | P    | 0454             | 211             | 2.6              |         |
| ATHN     | 09  | 0600E         | 0600        | 0751            | S21 | E12 | .457        | 17989           | 10.1 | 111D         | 1N         | 3 V  | 0600             | 223             | 2.9              |         |
| MANI     | 09  | 0612          | 0615U       | 0623            | S19 | E13 | .437        | 17989           | 10.2 | 11           | -N         | * V  |                  | 135             | 1.5              | F       |
| ATHN     | 09  | 0623          | 0625        | 0633            | S21 | E18 | .504        | 17989           | 10.6 | 10           | -B         | * V  | 0625             | 95              | 1.2              |         |
| 139 PEKG | 09  | 0458E         | 0503        | 0511D           | S23 | E35 | .685        | 17996           | 11.8 | 13D          | ?N         | P    | 0503             | 286             | 4.1              | FZ      |
|          |     |               | IMP.1       | NO : LEAR PURP  |     |     |             |                 |      |              |            |      |                  |                 |                  |         |
| 140 ABST | 09  | 0710          | 0712        | 0750            | S23 | E41 | .743        | 17996           | 12.4 | 40           | -F         | C    | 0712             | 131             | 1.8              | EJ      |
| GRP99141 | 09  | 0712+1        | 0714        | 0758            | N19 | E23 | .458        | 17992           | 11.0 | 46           | 1N         |      |                  |                 |                  | FJ      |
|          |     |               | 0731        |                 |     |     |             |                 |      |              |            |      |                  |                 |                  |         |
| ABST     | 09  | 0712          | 0731        | 0803            | N21 | E27 | .523        | 17992           | 11.3 | 51           | 1N         | C    | 0731             | 174             | 2.1              | FJ      |
| ATHN     | 09  | 0713          | 0714        | 0752            | N20 | E20 | .431        | 17992           | 10.8 | 39           | 1B         | 3 V  | 0717             | 191             | 2.2              |         |
| ABST     | 09  | 0741          | 0745        | 0755            | N17 | E24 | .456        | 17992           | 11.1 | 14           | -F         | C    | 0745             | 87              | .9               | DJ      |
| 142 ABST | 09  | 0742          | 0745        | 0845            | N03 | E27 | .453        | 17997           | 11.3 | 63           | -N         | C    | 0745             | 174             | 1.9              | EK      |
| GRP99143 | 09  | 0928+1        | 0931+6      | 0943            | S10 | W74 | .966        | 17968           | 3.8  | 15           | -B         |      |                  | 35              |                  |         |
| ATHN     | 09  | 0928          | 0931        | 0946            | S09 | W79 | .984        | 17968           | 3.5  | 18           | -B         | 3 V  | 0931             | 32              |                  |         |
| HTPR     | 09  | 0929          | 0937        | 0940            | S12 | W69 | .942        | 17968           | 4.2  | 11           | -B         | C    | 0937             | 40              | 1.0              |         |
| GRP99144 | 09  | 0941+4        | 0943        | 1010            | S13 | W14 | .368        | 17983           | 8.4  | 29           | -F         |      |                  |                 |                  | E       |
|          |     |               | 0951        |                 |     |     |             |                 |      |              |            |      |                  |                 |                  |         |
| HTPR     | 09  | 0941          | 0945        | 1010            | S13 | W12 | .348        | 17983           | 8.5  | 29           | -F         | C    | 0943             | 30              | .3               | E       |
| ATHN     | 09  | 0945          | 0951        | 0955D           | S13 | W17 | .401        | 17983           | 8.1  | 10D          | -N         | 3 V  | 0951             | 95              | 1.1              |         |
| 145 HTPR | 09  | 1020          | 1021        | 1027            | S14 | W16 | .401        | 17983           | 8.2  | 7            | -F         | C    | 1021             | 20              | .2               |         |
| GRP99146 | 09  | 1021          | 1031        | 1043            | S19 | E33 | .636        | 17996           | 11.9 | 22           | -N         |      |                  | 100             | 1.3              | E       |
| HTPR     | 09  | 1021          | 1031        | 1040            | S20 | E33 | .644        | 17996           | 11.9 | 19           | -N         | C    | 1031             | 100             | 1.1              | E       |
| CATA     | 09  | 1035E         | 1035        | 1045            | S18 | E33 | .630        | 17996           | 11.9 | 10D          | -          | 2 P  | 1035             | 112             | 1.5              |         |
| 147 HTPR | 09  | 1047          | 1048        | 1100            | N20 | E28 | .528        | 17992           | 11.5 | 13           | -F         | C    | 1048             | 20              | .2               |         |
| GRP99148 | 09  | 1225+3        | 1229        | 1435D           | S17 | E17 | .447        | 17989           | 10.8 | 130          | 2B         |      |                  |                 |                  | E1U     |
|          |     |               | 1248        |                 |     |     |             |                 |      |              |            |      |                  |                 |                  |         |
| HTPR     | 09  | 1225          |             | 1514D           | S18 | E17 | .459        | 17989           | 10.8 | 169D         | 2B         | C    | 1310             | 700             | 7.0              | E1U     |
| ATHN     | 09  | 1228          | 1248        | 1435            | S11 | E18 | .392        | 17989           | 10.9 | 127          | 2B         | 3 V  | 1248             | 637             | 7.2              |         |
| ATHN     | 09  | 1228          | 1229        | 1435            | S11 | E18 | .392        | 17989           | 10.9 | 127          | -B         | 3 V  | 1229             |                 |                  |         |
| CATA     | 09  | 1235E         | 1240        | 1240D           | S17 | E15 | .428        | 17989           | 10.6 | 5D           | 2          | 2 P  | 1240             | 450             | 5.1              |         |
| 149 HTPR | 09  | 1450          |             | 1514D           | N20 | E26 | .503        | 17992           | 11.6 | 24D          | -F         | C    | 1500             | 80              | .9               | E       |
| 150 HTPR | 09  | 1510          |             | 1514D           | N03 | E25 | .422        | 17997           | 11.5 | 4D           | -N         | C    | 1512             | 30              | .3               | E       |
|          | 09  | 1600          | 1610        | NO FLARE PATROL |     |     |             |                 |      |              |            |      |                  |                 |                  |         |
| 151 CULG | 09  | 2236E         | 2242        | 2247D           | N14 | E65 | .906        | 18006           | 14.8 | 11D          | -F         | P    | 2242             | 50              | 1.2              |         |

NOVEMBER 1981

| Sta             | Day  | Start<br>(UT) | Max<br>(UT) | End<br>(UT) | Lat             | Cmd | Can<br>Dist | Hale<br>Plage<br>Region | CMP<br>Day | Dur<br>(Min) | Obs<br>Imp | Type | Area<br>Time<br>(UT) | Measurement<br>Appar<br>(Disk) | Corr<br>(Sq Deg) | Remarks |     |
|-----------------|------|---------------|-------------|-------------|-----------------|-----|-------------|-------------------------|------------|--------------|------------|------|----------------------|--------------------------------|------------------|---------|-----|
| 152             | CULG | 09            | 2305E       | 2306U       | 2308D           | S17 | E03         | .354                    | 17989      | 10.2         | 3D         | -F   | P                    | 2306                           | 60               | .7      |     |
| 153             | CULG | 10            | 0024        | 0030U       | 0050            | N19 | E16         | .376                    | 17992      | 11.2         | 26         | -N   | P                    | 0030                           | 80               | .9      | J   |
| GRP99154        | 10   | 0204>9        | 0216        | 0240D       | N19             | E15 | .365        | 17992                   | 11.2       | 36           | -F         |      |                      |                                |                  |         | DJK |
|                 | CULG | 10            | 0204E       | 0216U       | 0310            | N19 | E16         | .376                    | 17992      | 11.3         | 66D        | -N   | P                    | 0216                           | 140              | 1.6     | KJ  |
|                 | YUNN | 10            | 0230        | 0236        | 0240            | N19 | E15         | .365                    | 17992      | 11.2         | 10         | -F   | C                    |                                | 16               | .2      | D   |
| 155             | CULG | 10            | 0221E       | 0221U       | 0222D           | S08 | E58         | .857                    | 18009      | 14.4         | 1D         | -F   | P                    | 0221                           | 50               | 1.0     |     |
| GRP99156        | 10   | 0224+1        | 0224+6      | 0244        | S17             | E70 | .951        | 18004                   | 15.3       | 20           | -N         |      |                      |                                | 80               |         | EG  |
|                 | PURP | 10            | 0224E       | 0224        | 0246            | S10 | E64         | .907                    | 18004      | 14.9         | 22D        | -B   | P                    | 0224                           | 73               |         | E   |
|                 | YUNN | 10            | 0225        | 0229        | 0240            | S16 | E71         | .955                    | 18004      | 15.4         | 15         | -N   | C                    |                                | 48               |         | D   |
|                 | YUNN | 10            | 0225        | 0229        | 0240            | S18 | E70         | .952                    | 18004      | 15.4         | 15         | -N   | C                    |                                | 48               |         | DG  |
|                 | CULG | 10            | 0228E       | 0230U       | 0244D           | S17 | E70         | .951                    | 18004      | 15.4         | 16D        | -N   | P                    | 0230                           | 80               |         |     |
| 157             | YUNN | 10            | 0227        | 0228        | 0232            | S12 | W72         | .957                    | 17969      | 4.7          | 5          | -N   | C                    |                                | 48               |         | D   |
| 158             | CULG | 10            | 0228E       | 0311U       | 0318D           | N03 | E17         | .292                    | 17997      | 11.4         | 50D        | -N   | P                    | 0311                           | 70               | .7      | KJ  |
| GRP99159        | 10   | 0239+6        | 0243+4      | 0308D       | S18             | 00  | .366        | 17989                   | 10.1       | 29           | -F         |      |                      |                                |                  |         | D   |
|                 | CULG | 10            | 0239E       | 0243        | 0246D           | S19 | E01         | .382                    | 17989      | 10.2         | 7D         | -N   | P                    | 0243                           | 120              | 1.3     |     |
|                 | YUNN | 10            | 0245        | 0247        | 0308D           | S18 | W01         | .366                    | 17989      | 10.0         | 23D        | -F   | C                    |                                | 16               | .2      | D   |
| 160             | PEKG | 10            | 0353E       | 0353        | 0442            | S24 | E69         | .953                    | 18004      | 15.3         | 49D        | -N   | C                    | 0353                           | 55               |         | D   |
| GRP99161        | 10   | 0500>9        | 0511+1      | 0524        | S07             | W81 | .989        | 17969                   | 4.1        | 24           | 1N         |      |                      |                                | 90               |         | E   |
|                 | PURP | 10            | 0500        | 0511        | 0523            | S07 | W80         | .986                    | 17969      | 4.2          | 23         | 1N   | C                    | 0511                           | 132              |         |     |
|                 | PEKG | 10            | 0510        | 0512        | 0525            | S07 | W83         | .994                    | 17969      | 4.0          | 15         | 1N   | C                    | 0512                           | 59               |         | E   |
| 162             | PEKG | 10            | 0510        | 0515        | 0520            | N11 | E61         | .874                    | 18005      | 14.8         | 10         | -N   | P                    | 0515                           | 46               | 1.0     | E   |
| GRP99163        | 10   | 0545+1        | 0547+4      | 0614        | S08             | W76 | .973        | 17969                   | 4.5        | 29           | 1N         |      |                      |                                | 150              |         | H   |
|                 | PEKG | 10            | 0545        | 0547        | 0615            | S08 | W76         | .973                    | 17969      | 4.5          | 30         | 1B   | C                    | 0547                           | 189              |         | HT  |
|                 | MITK | 10            | 0546        | 0551        | 0605            | S07 | W75         | .968                    | 17969      | 4.6          | 19         | 1N   | C                    | 0551                           | 110              |         | E   |
|                 | YUNN | 10            | 0604E       | 0610        | 0614            | S08 | W85         | .997                    | 17969      | 3.9          | 10D        | -N   | P                    |                                | 32               |         | D   |
| 164             | PEKG | 10            | 0630        | 0634        | 0646            | S06 | W84         | .995                    | 17972      | 4.0          | 16         | -N   | C                    | 0634                           | 63               |         | DT  |
| 165             | PEKG | 10            | 0740        | 0755        | 0809            | S08 | W77         | .977                    | 17969      | 4.5          | 29         | -B   | C                    | 0755                           | 59               |         | ET  |
|                 |      | 10            | 0822        | 0836        | NO FLARE PATROL |     |             |                         |            |              |            |      |                      |                                |                  |         |     |
| 166             | ABST | 10            | 0846        | 0846        | 0856            | N18 | E13         | .331                    | 17992      | 11.3         | 10         | -F   | P                    | 0846                           | 174              | 1.8     | EJ  |
| 167             | ABST | 10            | 0846        | 0848        | 0856            | S08 | W80         | .987                    | 17969      | 4.4          | 10         | 1F   | P                    | 0848                           | 131              |         | EJ  |
| 168             | ABST | 10            | 0848        | 0849        | 0852            | S13 | W27         | .522                    | 17983      | 8.3          | 4          | -F   | C                    | 0849                           | 87               | 1.1     | DJ  |
|                 |      | 10            | 0946        | 1054        | NO FLARE PATROL |     |             |                         |            |              |            |      |                      |                                |                  |         |     |
|                 |      | 10            | 1241        | 1329        | NO FLARE PATROL |     |             |                         |            |              |            |      |                      |                                |                  |         |     |
|                 |      | 10            | 1341        | 1424        | NO FLARE PATROL |     |             |                         |            |              |            |      |                      |                                |                  |         |     |
| 169             | CULG | 10            | 2045        | 2048        | 2100            | S19 | E04         | .387                    | 17989      | 11.2         | 15         | -N   | C                    | 2048                           | 80               | .9      |     |
| 170             | CULG | 10            | 2131        | 2144        | 2210            | N21 | E48         | .764                    | 18006      | 14.5         | 39         | -B   | C                    | 2144                           | 70               | 1.1     | D   |
| 171             | CULG | 10            | 2209        | 2211        | 2218            | S19 | E03         | .385                    | 17989      | 11.1         | 9          | -N   | C                    | 2211                           | 70               | .8      |     |
| GRP99172        | 10   | 2225          | 2231        | 2310        | S19             | 00  | .382        | 17989                   | 10.9       | 45           | -N         |      |                      |                                |                  |         | J   |
|                 | CULG | 10            | 2225        | 2231        | 2252            | S20 | W04         | .403                    | 17989      | 10.6         | 27         | -F   | C                    | 2231                           | 60               | .7      | J   |
|                 | CULG | 10            | 2230        | 2253        | 2310            | S19 | E03         | .385                    | 17989      | 11.2         | 40         | -N   | C                    | 2253                           | 90               | 1.0     |     |
| 173             | CULG | 10            | 2307        | 2309        | 2330            | N02 | E00         | .025                    | 17997      | 11.0         | 23         | -N   | C                    | 2309                           | 40               | .4      |     |
| 174             | CULG | 10            | 2318        | 2324        | 2341D           | S10 | W57         | .999                    | 17969      | 4.4          | 23D        | 1F   | P                    | 2324                           | 60               |         |     |
| IMP.1 NO : HOLL |      |               |             |             |                 |     |             |                         |            |              |            |      |                      |                                |                  |         |     |

## H - ALPHA SOLAR FLARES

75  
Nov 81

NOVEMBER 1981

| Sta      | Day  | Start<br>(UT) | Max<br>(UT) | End<br>(UT) | Lat  | CMD | Hale<br>Dist | Plage<br>Region | CHP<br>Day | Dur<br>(Min) | Imp | Obs<br>Type | Area<br>Time<br>(UT) | Measurement<br>Appar<br>(Disk) | Corr<br>(Sq Deg) | Remarks |     |
|----------|------|---------------|-------------|-------------|------|-----|--------------|-----------------|------------|--------------|-----|-------------|----------------------|--------------------------------|------------------|---------|-----|
| 175      | PEKG | 11            | 0015E       | 0020        | 0031 | S07 | W90          | 1.000           | 17969      | 4.3          | 16D | -N          | P                    | 0020                           | 46               |         | AE  |
| GRP99176 | 11   | 0031+4        | 0036+1      | 0044        | S09  | W89 | 1.000        | 17969           | 4.3        | 13           | -N  |             |                      |                                | 60               |         | AD  |
| CULG     | 11   | 0031          | 0036        | 0044        | S11  | W88 | 1.000        | 17969           | 4.4        | 13           | -F  | C           | 0036                 | 60                             |                  |         |     |
| PEKG     | 11   | 0035          | 0037        | 0043        | S07  | W90 | 1.000        | 17969           | 4.3        | 8            | -B  | C           | 0037                 | 67                             |                  | AD      |     |
| 177      | CULG | 11            | 0045        | 0058        | 0108 | N21 | E47          | .754            | 18006      | 14.6         | 23  | -F          | C                    | 0058                           | 50               | .8      | J   |
| 178      | CULG | 11            | 0116        | 0131        | 0206 | N19 | E45          | .727            | 18006      | 14.4         | 50  | -N          | C                    | 0131                           | 100              | 1.5     | J   |
| 179      | CULG | 11            | 0150        | 0216        | 0244 | N01 | W03          | .066            | 17997      | 10.9         | 54  | -N          | C                    | 0216                           | 100              | 1.0     |     |
| 180      | CULG | 11            | 0219        | 0224        | 0248 | S21 | W19          | .510            | 17989      | 9.7          | 29  | -F          | C                    | 0224                           | 50               | .6      |     |
| 181      | CULG | 11            | 0220        | 0235        | 0257 | S18 | E56          | .858            | 18004      | 15.3         | 37  | -F          | C                    | 0235                           | 40               | .8      |     |
| 182      | CULG | 11            | 0252        | 0302        | 0314 | N21 | E46          | .744            | 18006      | 14.6         | 22  | -F          | C                    | 0302                           | 40               | .6      |     |
| 183      | CULG | 11            | 0417        | 0439        | 0516 | N21 | E46          | .744            | 18006      | 14.6         | 59  | -N          | C                    | 0439                           | 90               | 1.3     | KJT |
| GRP99184 | 11   | 0430+3        | 0445+5      | 0527        | N20  | E02 | .289         | 17992           | 11.3       | 57           | 1B  |             |                      |                                | 300              | 3.1     | IJK |
| CULG     | 11   | 0430          | 0450        | 0530        | N20  | E00 | .287         | 17992           | 11.2       | 60           | 1B  | C           | 0450                 | 400                            | 4.0              | IKJ     |     |
| MITK     | 11   | 0433          | 0445        | 0527        | N18  | E03 | .258         | 17992           | 11.4       | 54           | 1N  | C           | 0445                 | 200                            | 2.1              | E       |     |
| YUNN     | 11   | 0503E         |             | 0516        | N20  | E02 | .289         | 17992           | 11.4       | 13D          | 1B  | P           | 0503                 | 208                            | 2.7              | F       |     |
| GRP99185 | 11   | 0440          | 0455        | 0538        | N02  | E01 | .029         | 17997           | 11.3       | 58           | -N  |             |                      |                                |                  |         | FJK |
|          |      |               | 0536        |             |      |     |              |                 |            |              |     |             |                      |                                |                  |         |     |
| CULG     | 11   | 0440          | 0455        | 0548        | N01  | E00 | .041         | 17997           | 11.2       | 68           | -N  | C           | 0455                 | 110                            | 1.1              | KJ      |     |
| YUNN     | 11   | 0503E         |             | 0526        | N03  | E03 | .053         | 17997           | 11.4       | 23D          | -B  | P           | 0503                 | 160                            | 1.7              | F       |     |
| CULG     | 11   | 0531          | 0536        | 0550        | N01  | W03 | .066         | 17997           | 11.0       | 19           | -F  | C           | 0536                 | 50                             | .5               |         |     |
| GRP99186 | 11   | 0535          | 0539        | 0618D       | S20  | W08 | .417         | 17989           | 10.6       | 43           | -N  |             |                      |                                |                  |         | JK  |
|          |      |               | 0547        |             |      |     |              |                 |            |              |     |             |                      |                                |                  |         |     |
| CULG     | 11   | 0535          | 0539        | 0650        | S19  | W06 | .392         | 17989           | 10.8       | 75           | -N  | C           | 0539                 | 80                             | .9               | KJ      |     |
| YUNN     | 11   | 0544E         | 0547        | 0549D       | S20  | W08 | .417         | 17989           | 10.6       | 5D           | -N  | P           |                      | 64                             | .7               | E       |     |
| PURP     | 11   | 0605          | 0606        | 0618        | S20  | W08 | .417         | 17989           | 10.7       | 13           | -N  | C           | 0606                 | 99                             | 1.1              | D       |     |
| 187      | CULG | 11            | 0639        | 0649        | 0710 | N20 | E45          | .730            | 18006      | 14.7         | 31  | -N          | C                    | 0649                           | 40               | .6      | KJT |
| GRP99188 | 11   | 0702          | 0704        | 0727        | N19  | E05 | .283         | 17992           | 11.7       | 25           | -N  |             |                      |                                | 60               | .6      |     |
|          |      |               | 0714        |             |      |     |              |                 |            |              |     |             |                      |                                |                  |         |     |
| CULG     | 11   | 0702          | 0714        | 0729        | N19  | E05 | .283         | 17992           | 11.7       | 27           | -N  | C           | 0714                 | 70                             | .7               |         |     |
| CULG     | 11   | 0702          | 0704        | 0713        | N16  | E00 | .219         | 17992           | 11.3       | 11           | -F  | C           | 0704                 | 50                             | .5               |         |     |
| PURP     | 11   | 0717E         | 0717        | 0718D       | N19  | E06 | .288         | 17992           | 11.8       | 1D           | -N  | P           | 0717                 | 53                             | .6               |         |     |
| KANZ     | 11   | 0718E         | 0718        | 0725        | N20  | E05 | .299         | 17992           | 11.7       | 7D           | -N  | 2           |                      |                                |                  |         |     |
| GRP99189 | 11   | 0733+2        | 0733+4      | 0747        | N18  | E43 | .702         | 18006           | 14.5       | 14           | -N  |             |                      |                                | 50               | .7      | EJK |
| CULG     | 11   | 0733          | 0735        | 0746        | N20  | E45 | .730         | 18006           | 14.7       | 13           | -N  | C           | 0735                 | 40                             | .6               | KJT     |     |
| KANZ     | 11   | 0733          | 0733        | 0748        | N18  | E42 | .690         | 18006           | 14.5       | 15           | -B  | 2           |                      |                                |                  |         |     |
| CATA     | 11   | 0735          | 0735        | 0750        | N16  | E41 | .672         | 18006           | 14.4       | 15           | -   | 2           | C                    | 0735                           | 56               | .8      |     |
| ATHN     | 11   | 0735          | 0737        | 0747        | N20  | E43 | .684         | 18006           | 14.5       | 12           | -B  | 3           | V                    | 0737                           | 64               | .8      |     |
| PURP     | 11   | 0738E         | 0738        | 0740        | N17  | E43 | .699         | 18006           | 14.5       | 2D           | -N  | C           | 0738                 | 21                             | .3               | E       |     |
| 190      | KANZ | 11            | 0838        | 0838        | 0846 | N20 | E43          | .708            | 18006      | 14.6         | C   | -F          | 2                    |                                |                  |         |     |
| GRP99191 | 11   | 0853+6        | 0900+1      | 0909        | N17  | E41 | .675         | 18006           | 14.4       | 16           | -N  |             |                      |                                |                  |         | EHL |
| KANZ     | 11   | 0853          | 0901        | 0917        | N18  | E40 | .667         | 18006           | 14.4       | 24           | -B  | *           |                      |                                |                  |         | L   |
| ISTA     | 11   | 0857          |             | 0907        | N16  | E43 | .696         | 18006           | 14.6       | 10           | -N  | *           |                      |                                |                  |         | E   |
| MONT     | 11   | 0858          | 0900        | 0907        | N17  | E41 | .675         | 18006           | 14.4       | 9            | -N  | *           | C                    | 0900                           | 150              |         | H   |
| WEND     | 11   | 0859          | 0900        | 0910        | N17  | E42 | .687         | 18006           | 14.5       | 11           | -N  | *           | C                    | 0900                           | 50               | .7      |     |
| GRP99192 | 11   | 0854+3        | 0855+7      | 0919        | N02  | E01 | .029         | 17997           | 11.4       | 25           | -N  |             |                      |                                | 100              | 1.0     | E   |
| MONT     | 11   | 0854          | 0859        | 0918        | N03  | E01 | .018         | 17997           | 11.4       | 24           | -N  | C           | 0859                 | 100                            |                  |         |     |
| ISTA     | 11   | 0854          |             | 0913        | N02  | E02 | .042         | 17997           | 11.5       | 19           | -N  |             |                      |                                |                  |         | E   |
| CATA     | 11   | 0855          | 0855        | 0930        | N02  | E00 | .023         | 17997           | 11.4       | 35           | 1   | 2           | C                    | 0855                           | 225              | 2.3     |     |
| WEND     | 11   | 0855          | 0902        | 0919D       | N03  | W01 | .018         | 17997           | 11.3       | 24D          | -N  | C           | 0902                 | 69                             | .7               |         |     |
| KANZ     | 11   | 0857          | 0857        | 0921        | N02  | E01 | .029         | 17997           | 11.4       | 24           | -B  | 3           |                      |                                |                  |         | E   |
| GRP99193 | 11   | 1040+1        | 1043+0      | 1056        | N14  | W01 | .186         | 17992           | 11.4       | 16           | -N  |             |                      |                                |                  |         |     |
| KANZ     | 11   | 1040          | 1043        | 1103        | N15  | W01 | .203         | 17992           | 11.4       | 23           | -N  | 3           |                      |                                |                  |         |     |
| MONT     | 11   | 1041          | 1043        | 1049        | N14  | W01 | .186         | 17992           | 11.4       | 8            | -N  | C           | 1043                 | 70                             |                  |         |     |

76  
Nov 81

# H - ALPHA SOLAR FLARES

NOVEMBER 1981

| Sta      | Day | Start<br>(UT)             | Max<br>(UT)  | End<br>(UT)     | Lat | CMD | Hale<br>Can<br>Dist | Plage<br>Region | CMP<br>Day | Dur<br>(Min) | Obs<br>Imp | Type | Area<br>Time<br>(UT) | Measurement<br>Appar<br>(Disk) | Corr<br>(Sq Deg) | Remarks |
|----------|-----|---------------------------|--------------|-----------------|-----|-----|---------------------|-----------------|------------|--------------|------------|------|----------------------|--------------------------------|------------------|---------|
| GRP99194 | 11  | 1120+8                    | 1120<br>1132 | 1152            | N17 | E39 | .651                | 18006           | 14.4       | 32           | -N         |      |                      |                                |                  | H       |
| CATA     | 11  | 1120                      | 1120         | 1145            | N16 | E39 | .648                | 18006           | 14.4       | 25           | -          | 2 C  | 1120                 | 112                            | 1.5              | H       |
| KANZ     | 11  | 1128                      | 1132         | 1158            | N18 | E39 | .655                | 18006           | 14.4       | 30           | -B         | 3    |                      |                                |                  | H       |
| 195 KANZ | 11  | 1217                      | 1217         | 1234            | N02 | W01 | .029                | 17997           | 11.4       | 17           | -F         | 3    |                      |                                |                  |         |
| 196 KANZ | 11  | 1321                      | 1325         | 1329            | N19 | E38 | .647                | 18006           | 14.4       | 8            | -N         | 3    |                      |                                |                  |         |
|          | 11  | 1814                      | 1829         | NO FLARE PATROL |     |     |                     |                 |            |              |            |      |                      |                                |                  |         |
| 197 PEKG | 12  | 0142                      | 0146         | 0158            | N18 | W10 | .305                | 17992           | 11.3       | 16           | -F         | P    | 0146                 | 55                             | .6               | E       |
| 198 PEKG | 12  | 0143                      | 0146         | 0155            | S15 | E45 | .745                | 18004           | 15.4       | 12           | -F         | P    | 0146                 | 17                             | .3               | D       |
| GRP99199 | 12  | 0220+7                    | 0226+2       | 0233            | N18 | E31 | .556                | 18006           | 14.4       | 13           | -N         |      |                      | 100                            | 1.2              | E       |
| PEKG     | 12  | 0220                      | 0226         | 0232            | N18 | 31  | .556                | 18006           | 14.4       | 12           | -N         | C    | 0226                 | 88                             | 1.1              | E       |
| VORO     | 12  | 0227                      | 0228         | 0233            | N18 | E32 | .569                | 18006           | 14.5       | 6            | -N         | C    | 0228                 | 108                            | 1.3              | E       |
| 200 YUNN | 12  | 0244E                     | 0246         | 0253            | S13 | E38 | .657                | 18004           | 15.0       | 90           | -N         | P    |                      | 64                             | .9               | D       |
| 201 PEKG | 12  | 0315                      | 0316         | 0324            | N11 | E36 | .595                | 18005           | 14.8       | 9            | -N         | C    | 0316                 | 59                             | .7               | E       |
| 202 PEKG | 12  | 0324                      | 0327         | 0334            | S14 | E37 | .650                | 18004           | 14.9       | 10           | -N         | C    | 0327                 | 135                            | 1.8              | E       |
| 203 PEKG | 12  | 0330                      | 0343         | 0348            | N18 | W08 | .288                | 17992           | 11.5       | 18           | 2N         | C    | 0343                 | 320                            | 3.4              | E       |
|          |     | IMP.1 NO : LEAR MITK PURP |              |                 |     |     |                     |                 |            |              |            |      |                      |                                |                  |         |
| 204 YUNN | 12  | 0508E                     |              | 0521            | N20 | W12 | .350                | 17992           | 11.3       | 130          | -N         | P    | 0508                 | 32                             | .4               | E       |
| 205 YUNN | 12  | 0547E                     | 0549         | 0557            | S17 | W24 | .517                | 17989           | 10.4       | 100          | -N         | P    |                      | 48                             | .6               | E       |
| 206 YUNN | 12  | 0548                      | 0549         | 0601            | N19 | W12 | .336                | 17992           | 11.3       | 13           | -N         | C    |                      | 32                             | .4               | E       |
| 207 YUNN | 12  | 0613                      | 0616         | 0621            | S17 | W23 | .506                | 17989           | 10.5       | 8            | -N         | C    |                      | 80                             | 1.0              | E       |
| 208 YUNN | 12  | 0732E                     | 0733         | 0735D           | N18 | W12 | .324                | 17992           | 11.4       | 30           | -N         | P    |                      | 64                             | .7               | E       |
| 209 YUNN | 12  | 0813E                     | 0815U        | 0822            | N18 | W11 | .314                | 17992           | 11.5       | 90           | -B         | P    |                      | 80                             | .9               |         |
| 210 YUNN | 12  | 0829                      | 0836         | 0852            | N12 | E18 | .340                | 18012           | 13.7       | 23           | -N         | C    |                      | 48                             | .5               | E       |
| 211 YUNN | 12  | 0853E                     | 0853D        | 0856D           | S23 | W23 | .567                | 17989           | 10.6       | 30           | -N         | P    | 0853                 | 16                             | .2               | D       |
| 212 YUNN | 12  | 0912E                     | 0917         | 0928D           | S13 | E34 | .608                | 18004           | 14.9       | 160          | -F         | P    |                      | 32                             | .4               |         |
| 213 YUNN | 12  | 0912E                     | 0914         | 0917            | N16 | E32 | .559                | 18006           | 14.8       | 50           | -N         | P    | 0914                 | 16                             | .2               | E       |
| 214 YUNN | 12  | 0917                      | 0925         | 0928D           | N20 | W11 | .341                | 17992           | 11.6       | 110          | -B         | P    |                      | 48                             | .5               | E       |
| 215 KANZ | 12  | 1144                      | 1204         | 1220            | N17 | W13 | .322                | 17992           | 11.5       | 36           | -F         | 2    |                      |                                |                  |         |
| GRP99216 | 12  | 1216                      | 1230<br>1250 | 1302            | N17 | E25 | .472                | 18006           | 14.4       | 46           | -N         |      |                      |                                |                  | L       |
| KANZ     | 12  | 1216                      | 1230         | 1302            | N17 | E26 | .485                | 18006           | 14.5       | 46           | -N         | 2    |                      |                                |                  | L       |
| KANZ     | 12  | 1250                      | 1250         | 1302            | N18 | E25 | .479                | 18006           | 14.4       | 12           | -F         | *    |                      |                                |                  |         |
| 217 KANZ | 12  | 1230                      | 1238         | 1254            | N19 | W12 | .336                | 17992           | 11.6       | 24           | -N         | 3    |                      |                                |                  | E       |
| 218 ATHN | 12  | 1238E                     | 1240         | 1250            | S21 | W11 | .446                | 17996           | 11.7       | 120          | -B         | 3 V  | 1240                 | 127                            | 1.4              |         |
| 219 KANZ | 12  | 1339                      | 1339         | 1343            | S22 | W23 | .556                | 17989           | 10.8       | 4            | -F         | 3    |                      |                                |                  |         |
| 220 CULG | 12  | 2157E                     | 2156U        | 2205            | N02 | W28 | .469                | 17997           | 10.8       | 80           | -N         | P    | 2158                 | 70                             | .8               |         |
| 221 CULG | 12  | 2157E                     | 2201U        | 2208            | N18 | W20 | .415                | 17992           | 11.4       | 110          | -F         | P    | 2201                 | 40                             | .5               |         |
| 222 CULG | 12  | 2306E                     | 2311         | 2344D           | S20 | W23 | .536                | 17989           | 11.2       | 380          | -N         | P    | 2311                 | 110                            | 1.3              | FIK     |
| 223 CULG | 12  | 2316                      | 2318U        | 2330D           | N18 | W21 | .428                | 17992           | 11.4       | 140          | -F         | P    | 2318                 | 50                             | .6               |         |

## H - ALPHA SOLAR FLARES

77  
Nov 81

NOVEMBER 1981

| Sta      | Day | Start<br>(UT) | Max<br>(UT)      | End<br>(UT) | Lat | CMD | Hale        |                 | CMP<br>Day | Dur<br>(Min) | Obs<br>Imp | Type | Area<br>Time<br>(UT) | Measurement     |                  | Remarks |
|----------|-----|---------------|------------------|-------------|-----|-----|-------------|-----------------|------------|--------------|------------|------|----------------------|-----------------|------------------|---------|
|          |     |               |                  |             |     |     | Can<br>Dist | Plage<br>Region |            |              |            |      |                      | Appar<br>(Disk) | Corr<br>(Sq Deg) |         |
| GRP99224 | 12  | 2337+1        | 2339+4           | 2358        | S02 | E87 | .999        | 18017           | 19.5       | 21           | 1N         |      |                      | 100             |                  | DH      |
| MITK     | 12  | 2337          | 2343             | 0006        | S02 | E87 | .999        | 18017           | 19.5       | 29           | 1N         | C    | 2343                 | 100             |                  | DH      |
| VORO     | 12  | 2338          | 2343             | 2350        | S02 | E85 | .996        | 18017           | 19.4       | 12           | -N         | C    | 2343                 | 152             |                  | D       |
| CULG     | 12  | 2339E         | 2339U            | 2344D       | S02 | E87 | .999        | 18017           | 19.5       | 5D           | 1F         | P    | 2339                 | 60              |                  |         |
| 225 CULG | 12  | 2339E         | 2339U            | 2341D       | N18 | W21 | .428        | 17992           | 11.4       | 2D           | -N         | P    | 2339                 | 30              | .3               |         |
| 226 VORO | 12  | 2348          | 2350             | 2356        | N18 | W22 | .440        | 17992           | 11.3       | 8            | -N         | C    | 2350                 | 99              | 1.0              | D       |
| GRP99227 | 13  | 0017>9        | 0024<br>0038     | 0049        | N18 | W22 | .442        | 17992           | 11.4       | 32           | -N         |      |                      |                 |                  |         |
| CULG     | 13  | 0017          | 0024             | 0049        | N18 | W22 | .442        | 17992           | 11.4       | 32           | -N         | C    | 0024                 | 40              | .4               |         |
| VORO     | 13  | 0034          | 0038             | 0048        | N19 | W22 | .450        | 17992           | 11.4       | 14           | -N         | C    | 0038                 | 90              | .9               | D       |
| 228 CULG | 13  | 0101          | 0105             | 0114        | N17 | W21 | .421        | 17992           | 11.5       | 13           | -F         | C    | 0105                 | 110             | 1.2              |         |
| GRP99229 | 13  | 0110>9        | 0120+1<br>0130   | 0133        | N15 | E20 | .391        | 18006           | 14.5       | 23           | -N         |      |                      | 100             | 1.1              | E       |
| CULG     | 13  | 0110          | 0120             | 0152        | N16 | E19 | .386        | 18006           | 14.5       | 42           | -B         | C    | 0120                 | 120             | 1.3              |         |
| VORO     | 13  | 0117          |                  | 0127D       | N15 | E20 | .391        | 18006           | 14.6       | 10D          | -N         | C    | 0125                 | 81              | .8               | E       |
| YUNN     | 13  | 0120E         | 0121             | 0131        | N16 | E20 | .399        | 18006           | 14.6       | 11D          | -B         | P    |                      | 144             | 1.6              |         |
| PURP     | 13  | 0123          | 0130             | 0133        | N15 | E20 | .391        | 18006           | 14.6       | 10           | -N         | C    | 0130                 | 21              | .2               | E       |
| 230 YUNN | 13  | 0120E         | 0121             | 0131        | N15 | W20 | .391        | 17992           | 11.6       | 11D          | -N         | P    |                      | 48              | .5               | D       |
| GRP99231 | 13  | 0130+5        | 0133+3           | 0154        | S01 | E84 | .995        | 18017           | 19.4       | 24           | 1N         |      |                      | 100             |                  | DH      |
| CULG     | 13  | 0130          | 0135             | 0151        | S01 | E84 | .995        | 18017           | 19.4       | 21           | 1F         | C    | 0135                 | 120             |                  |         |
| PURP     | 13  | 0130          | 0133             | 0135D       | N04 | E79 | .981        | 18017           | 19.0       | 5D           | -B         | C    | 0133                 | 40              |                  |         |
| MITK     | 13  | 0135          | 0136             | 0156        | S02 | E85 | .996        | 18017           | 19.4       | 21           | 1N         | C    | 0136                 | 100             |                  | DH      |
| GRP99232 | 13  | 0144>9        | 0158<br>0210+0   | 0221        | N19 | W20 | .426        | 17992           | 11.6       | 37           | -N         |      |                      | 160             | 1.8              | E       |
| YUNN     | 13  | 0144E         | 0158             | 0219        | N18 | W21 | .429        | 17992           | 11.5       | 35D          | 1B         | P    | 0207                 | 241             | 2.8              | E       |
| VORO     | 13  | 0156          | 0210             | 0221        | N20 | W20 | .435        | 17992           | 11.6       | 25           | -N         | C    | 0210                 | 134             | 1.4              | E       |
| PURP     | 13  | 0210E         | 0210             | 0216        | N19 | W17 | .391        | 17992           | 11.8       | 6D           | -F         | V    | 0210                 | 115             | 1.3              | E       |
| GRP99233 | 13  | 0231+3        | 0235+5<br>0257+4 | 0312        | N18 | W21 | .429        | 17992           | 11.5       | 41           | -N         |      |                      | 80              | .9               | EK      |
| YUNN     | 13  | 0231          | 0235             | 0312        | N18 | W21 | .429        | 17992           | 11.5       | 4D           | -B         | * C  |                      | 80              | .9               |         |
| YUNN     | 13  | 0231          | 0257             | 0312        | N18 | W21 | .429        | 17992           | 11.5       | 15D          | -B         | * C  |                      | 80              | .9               | EK      |
| VORO     | 13  | 0234          | 0240             | 0250        | N18 | W21 | .429        | 17992           | 11.5       | 16           | -N         | * C  | 0240                 | 81              | .8               | D       |
| PURP     | 13  | 0254          | 0301             | 0302D       | N19 | W22 | .450        | 17992           | 11.5       | 8D           | -F         | * C  | 0301                 | 42              | .5               |         |
| VORO     | 13  | 0255          |                  | 0300D       | N17 | W22 | .433        | 17992           | 11.5       | 5D           | -F         | * C  | 0259                 | 152             | 1.6              | D       |
| 234 CULG | 13  | 0233          | 0237             | 0251        | N18 | E20 | .417        | 18006           | 14.6       | 18           | -F         | C    | 0237                 | 40              | .4               |         |
| GRP99235 | 13  | 0301+6        | 0314+1           | 0331        | N19 | E18 | .402        | 18006           | 14.5       | 30           | -B         |      |                      | 130             | 1.4              | E       |
| CULG     | 13  | 0301          | 0314             | 0340        | N20 | E18 | .413        | 18006           | 14.5       | 39           | 1B         | C    | 0314                 | 260             | 2.9              |         |
| PEKG     | 13  | 0304          | 0315             | 0353        | N19 | E17 | .391        | 18006           | 14.4       | 49           | -B         | C    | 0315                 | 126             | 1.4              | E       |
| MITK     | 13  | 0306          | 0314             | 0326        | N19 | E18 | .402        | 18006           | 14.5       | 20           | -N         | C    | 0314                 |                 |                  | E       |
| YUNN     | 13  | 0307          | 0315             | 0325        | N18 | E19 | .404        | 18006           | 14.6       | 18           | -B         | C    |                      | 128             | 1.4              | E       |
| PURP     | 13  | 0318E         | 0316             | 0328        | N18 | E18 | .392        | 18006           | 14.5       | 10D          | -N         | C    | 0318                 | 82              | .9               |         |
| GRP99236 | 13  | 0315>9        | 0326+1<br>0345+3 | 0357        | N19 | W22 | .450        | 17992           | 11.5       | 42           | 1N         |      |                      | 260             | 2.9              | EJKW    |
| CULG     | 13  | 0136          | 0345             | 0430        | N17 | W21 | .421        | 17992           | 11.5       | 174          | 1B         | * C  | 0345                 | 250             | 2.8              | KTJ     |
| PEKG     | 13  | 0315          | 0348             | 0356        | N19 | W23 | .462        | 17992           | 11.4       | 41           | 1N         | * C  | 0348                 | 273             | 3.2              | E       |
| MITK     | 13  | 0322          | 0336             | 0400        | N19 | W22 | .450        | 17992           | 11.5       | 38           | -N         | * C  | 0336                 |                 |                  | E       |
| YUNN     | 13  | 0323          | 0326             | 0355        | N19 | W22 | .450        | 17992           | 11.5       | 32           | -B         | * C  |                      | 80              | .9               | W       |
| PURP     | 13  | 0326          | 0327             | 0355        | N19 | W22 | .450        | 17992           | 11.5       | 29           | -N         | * C  | 0327                 | 108             | 1.2              | EK      |
| PURP     | 13  | 0326          | 0336             | 0355        | N19 | W22 | .450        | 17992           | 11.5       | 29           | -N         | * C  |                      |                 |                  | EK      |
| 237 CULG | 13  | 0410          | 0413             | 0427        | S20 | W62 | .907        | 17983           | 8.5        | 17           | -F         | C    | 0413                 | 50              | 1.2              |         |
| 238 PEKG | 13  | 0440          | 0446             | 0505        | S03 | E78 | .979        | 18017           | 19.0       | 25           | -N         | C    | 0446                 | 46              |                  | D       |
| GRP99239 | 13  | 0510+3        | 0521+1           | 0530        | N17 | W24 | .460        | 17992           | 11.4       | 20           | -N         |      |                      |                 |                  |         |
| PEKG     | 13  | 0510          | 0521             | 0530        | N18 | W24 | .467        | 17992           | 11.4       | 20           | 1N         | C    | 0521                 | 189             | 2.3              | E       |
| CULG     | 13  | 0511E         | 0521U            | 0535        | N17 | W24 | .460        | 17992           | 11.4       | 24D          | -N         | P    | 0521                 | 80              | .9               |         |
| YUNN     | 13  | 0513          | 0522             | 0527        | N17 | W22 | .433        | 17992           | 11.6       | 14           | -F         | C    |                      | 32              | .4               | D       |

## H - ALPHA SOLAR FLARES

NOVEMBER 1981

| Sta      | Day  | Start<br>(UT) | Max<br>(UT) | End<br>(UT) | Lat             | CMD | Hale        |                 | CMP<br>Day | Dur<br>(Min) | Obs<br>Imp | Type | Area<br>Time<br>(UT) | Measurement<br>Appar<br>(Disk) | Corr<br>(Sq Deg) | Remarks |     |
|----------|------|---------------|-------------|-------------|-----------------|-----|-------------|-----------------|------------|--------------|------------|------|----------------------|--------------------------------|------------------|---------|-----|
|          |      |               |             |             |                 |     | Cen<br>Dist | Plage<br>Region |            |              |            |      |                      |                                |                  |         |     |
| 240      | CULG | 13            | 0520        | 0524        | 0540            | S02 | E79         | .982            | 18017      | 19.1         | 20         | -F   | C                    | 0524                           | 50               |         |     |
| 241      | CULG | 13            | 0531        | 0535        | 0538D           | N02 | W26         | .438            | 17997      | 11.3         | 7D         | -F   | P                    | 0535                           | 40               | .4      |     |
| 242      | CULG | 13            | 0559        | 0603        | 0612            | N17 | W24         | .460            | 17992      | 11.4         | 13         | -F   | C                    | 0603                           | 30               | .3      |     |
| 243      | CULG | 13            | 0608        | 0610        | 0620D           | N02 | W27         | .454            | 17997      | 11.2         | 12D        | -F   | P                    | 0610                           | 50               | .6      |     |
| 244      | CULG | 13            | 0616E       | 0620U       | 0620D           | N17 | W24         | .460            | 17992      | 11.5         | 4D         | -F   | P                    | 0620                           | 40               | .4      |     |
| 245      | YUNN | 13            | 0654        | 0659        | 0704            | N02 | W27         | .454            | 17997      | 11.3         | 10         | -F   | C                    |                                | 48               | .6      | E   |
| GRP99246 | 13   | 0713+0        | 0720+3      | 0746        | S20             | W29 | .597        | 17989           | 11.1       | 33           | -F         |      |                      | 25                             | .3               | E       |     |
| CULG     | 13   | 0713E         | 0720U       | 0745        | S21             | W28 | .595        | 17989           | 11.2       | 32D          | -F         | P    | 0720                 | 30                             | .3               |         |     |
| YUNN     | 13   | 0713          | 0723        | 0747        | S19             | W31 | .611        | 17989           | 11.0       | 34           | -F         | C    |                      | 16                             | .2               | E       |     |
| GRP99247 | 13   | 0807+5        | 0810+3      | 0825        | N19             | W22 | .450        | 17992           | 11.7       | 18           | -N         |      |                      | 90                             | 1.0              | E       |     |
| ISTA     | 13   | 0807          |             | 0825        | N19             | W23 | .462        | 17992           | 11.6       | 18           | -N         |      |                      |                                |                  | E       |     |
| YUNN     | 13   | 0808E         | 0810        | 0823        | N19             | W22 | .450        | 17992           | 11.7       | 15D          | -N         | P    |                      | 64                             | .7               | E       |     |
| ATHN     | 13   | 0812          | 0813        | 0829        | N19             | W20 | .426        | 17992           | 11.8       | 17           | -B         | 3    | V                    | 0813                           | 127              | 1.4     |     |
| 248      | YUNN | 13            | 0821        | 0830        | 0836            | N02 | W29         | .485            | 17997      | 11.2         | 15         | -F   | C                    |                                | 32               | .4      |     |
| GRP99249 | 13   | 0855+2        | 0859+2      | 0913        | S22             | W36 | .685        | 17989           | 10.7       | 18           | 1N         |      |                      | 220                            | 3.0              |         |     |
| BUCA     | 13   | 0855E         |             | 0906D       | S22             | W36 | .685        | 17989           | 10.7       | 11D          | 1F         | C    | 0858                 | 215                            | 3.0              |         |     |
| KANZ     | 13   | 0855          | 0859        | 0915        | S22             | W35 | .675        | 17989           | 10.7       | 20           | -N         | 3    |                      |                                |                  |         |     |
| YUNN     | 13   | 0857          | 0901        | 0910        | S21             | W36 | .678        | 17989           | 10.7       | 13           | 1B         | C    |                      | 225                            | 3.2              | EF      |     |
| 250      | KANZ | 13            | 0907        | 0915        | 0919            | S02 | E77         | .975            | 18017      | 19.2         | 12         | -F   | 2                    |                                |                  |         |     |
|          |      | 13            | 1034        | 1103        | NO FLARE PATROL |     |             |                 |            |              |            |      |                      |                                |                  |         |     |
| 251      | KANZ | 13            | 1104E       |             | 1104D           | N19 | E13         | .348            | 18006      | 14.4         |            | -N   | 1                    |                                |                  |         |     |
| 252      | KANZ | 13            | 1104E       |             | 1104D           | N18 | W27         | .505            | 17992      | 11.4         |            | -N   | 1                    |                                |                  |         |     |
|          |      | 13            | 1105        | 1119        | NO FLARE PATROL |     |             |                 |            |              |            |      |                      |                                |                  |         |     |
| 253      | ATHN | 13            | 1127        | 1129        | 1137D           | N19 | W24         | .475            | 17992      | 11.7         | 10D        | 1B   | 3                    | V                              | 1129             | 248     | 2.9 |
| 254      | HOLL | 13            | 1848        | 1849        | 1905            | S18 | W37         | .671            | 17989      | 11.0         | 17         | -N   | 3                    | C                              |                  | 68      | F   |
| GRP99255 | 13   | 1851+1        | 1851+6      | 1943        | N01             | W36 | .588        | 17997           | 11.1       | 52           | -F         |      |                      | 25                             | .3               | F       |     |
|          | HOLL | 13            | 1851        | 1851        | 1956            | N01 | W37         | .602            | 17997      | 11.0         | 65         | -N   | 3                    | C                              |                  | 23      | F   |
|          | PALE | 13            | 1852        | 1857        | 1910            | N01 | W36         | .588            | 17997      | 11.1         | 18         | -F   | 3                    | C                              |                  | 25      |     |
|          | PALE | 13            | 1910        | 1918        | 1930            | N01 | W36         | .588            | 17997      | 11.1         | 20         | -F   | 3                    | C                              |                  | 42      |     |
| 256      | HOLL | 13            | 1858        | 1902        | 1906            | S01 | E72         | .952            | 18017      | 19.2         | 8          | -F   | 3                    | C                              |                  |         |     |
| GRP99257 | 13   | 1907          | 1918        | 2147        | S19             | W38 | .687        | 17989           | 10.9       | 160          | -N         |      |                      |                                |                  | K       |     |
|          | HOLL | 13            | 1907        | 2002        | 2147            | S19 | W38         | .687            | 17989      | 10.9         | 160        | -N   | 3                    | C                              |                  | 62      | K   |
|          | HOLL | 13            | 1907        | 1918        | 2147            | S19 | W38         | .687            | 17989      | 10.9         | 160        | -F   | 3                    | C                              |                  | 64      | K   |
| GRP99258 | 13   | 1922+0        | 1923+1      | 1941        | N18             | W31 | .557        | 17992           | 11.5       | 19           | -N         |      |                      | 30                             | .4               | Z       |     |
|          | HOLL | 13            | 1922        | 1923        | 1944            | N18 | W31         | .557            | 17992      | 11.5         | 22         | -B   | 3                    | C                              |                  | 24      | ZF  |
|          | PALE | 13            | 1922        | 1924        | 1937            | N18 | W31         | .557            | 17992      | 11.5         | 15         | -N   | 3                    | C                              |                  | 35      | E   |
| 259      | HOLL | 13            | 1937        | 1937        | 1947            | S01 | E73         | .957            | 18017      | 19.3         | 10         | -F   | 3                    | C                              |                  |         |     |
| 260      | HOLL | 13            | 2001        | 2002        | 2005            | S02 | E71         | .946            | 18017      | 19.2         | 4          | -F   | 3                    | C                              |                  | 19      |     |
| 261      | HOLL | 13            | 2014        | 2014        | 2024            | S17 | W74         | .969            | 17983      | 8.3          | 10         | -F   | 3                    | C                              |                  |         |     |
| GRP99262 | 13   | 2041+2        | 2044+3      | 2055        | N01             | W39 | .630        | 17997           | 10.9       | 14           | -F         |      |                      | 20                             | .3               |         |     |
|          | HOLL | 13            | 2041        | 2047        | 2057            | N01 | W39         | .630            | 17997      | 10.9         | 16         | -F   | 3                    | C                              |                  | 21      |     |
|          | PALE | 13            | 2043        | 2044        | 2053            | N01 | W39         | .630            | 17997      | 10.9         | 10         | -F   | 3                    | C                              |                  | 22      |     |

## H - ALPHA SOLAR FLARES

79  
Nov 81

NOVEMBER 1981

| Sta      | Day  | Start<br>(UT) | Max<br>(UT) | End<br>(UT) | Lat  | CMD | Can<br>Dist | Hale<br>Plage<br>Region | CMP<br>Day | Dur<br>(Min) | Imp | Obs<br>Type | Area<br>Time<br>(UT) | Measurement<br>Appar<br>(Disk) | Corr<br>(Sq Deg) | Remarks |  |
|----------|------|---------------|-------------|-------------|------|-----|-------------|-------------------------|------------|--------------|-----|-------------|----------------------|--------------------------------|------------------|---------|--|
| GRP99263 | 13   | 2106+5        | 2110+2      | 2124        | N15  | E09 | .256        | 18006                   | 14.6       | 18           | -F  |             |                      | 35                             | .4               |         |  |
| CULG     | 13   | 2106          | 2110        | 2121        | N15  | E09 | .256        | 18006                   | 14.6       | 15           | -F  | C           | 2110                 | 40                             | .4               |         |  |
| HOLL     | 13   | 2111          | 2112        | 2126        | N16  | E10 | .279        | 18006                   | 14.6       | 15           | -N  | 3 C         |                      | 26                             |                  |         |  |
| GRP99264 | 13   | 2220+9        | 2331+3      | 2358        | S19  | W39 | .698        | 17989                   | 11.0       | 98           | -N  |             |                      |                                |                  | F       |  |
| HOLL     | 13   | 2220          | 2331        | 2337D       | S19  | W40 | .709        | 17989                   | 10.9       | 77D          | 1N  | 3 C         |                      | 211                            |                  | F       |  |
| LEAR     | 13   | 2320          | 2334        | 2358        | S19  | W38 | .687        | 17989                   | 11.1       | 38           | -N  | 3 C         |                      | 74                             |                  | F       |  |
| GRP99265 | 13   | 2301          | 2306+2      | 2328        | S03  | E71 | .947        | 18017                   | 19.3       | 27           | -F  |             |                      |                                |                  |         |  |
| PALE     | 13   | 2301          | 2306        | 2315        | S02  | E71 | .946        | 18017                   | 19.3       | 14           | -F  | 3 C         |                      | 28                             |                  |         |  |
| PALE     | 13   | 2306          | 2308        | 2328        | S04  | E71 | .947        | 18017                   | 19.3       | 22           | -F  | 3 C         |                      | 23                             |                  |         |  |
| GRP99266 | 13   | 2301+6        | 2306+3      | 2321        | N01  | W37 | .602        | 17997                   | 11.2       | 20           | -F  |             |                      | 45                             | .6               |         |  |
| PALE     | 13   | 2301          | 2306        | 2319        | N01  | W35 | .574        | 17997                   | 11.3       | 18           | -F  | * C         |                      | 60                             |                  |         |  |
| HOLL     | 13   | 2307          | 2309        | 2323        | N01  | W40 | .643        | 17997                   | 11.0       | 16           | -F  | * C         |                      | 27                             |                  |         |  |
| GRP99267 | 13   | 2315+2        | 2318+1      | 2328        | N18  | W32 | .569        | 17992                   | 11.6       | 13           | -N  |             |                      | 40                             | .5               | F       |  |
| PALE     | 13   | 2315          | 2318        | 2328        | N18  | W32 | .569        | 17992                   | 11.6       | 13           | -F  | 3 C         |                      | 37                             |                  |         |  |
| LEAR     | 13   | 2316          | 2318        | 2325        | N19  | W31 | .562        | 17992                   | 11.6       | 9            | -N  | 3 C         |                      | 39                             |                  | F       |  |
| HOLL     | 13   | 2317          | 2319        | 2330        | N18  | W33 | .582        | 17992                   | 11.5       | 13           | -B  | 3 C         |                      | 50                             |                  | F       |  |
| GRP99268 | 13   | 2329+2        | 2336+8      | 0017        | S02  | E71 | .946        | 18017                   | 19.3       | 48           | 1N  |             |                      |                                |                  |         |  |
| HOLL     | 13   | 2303          | 2336        | 2337D       | S02  | E71 | .946        | 18017                   | 19.3       | 34D          | 1N  | 2 C         |                      |                                |                  | F       |  |
| LEAR     | 13   | 2329          | 2344        | 0022        | S04  | E71 | .947        | 18017                   | 19.3       | 53           | 1N  | 3 C         |                      | 201                            |                  |         |  |
| PALE     | 13   | 2331          | 2339        | 2344D       | S02  | E72 | .461        | 18017                   | 19.4       | 13D          | 1F  | 3 C         |                      |                                |                  |         |  |
| MITK     | 13   | 2335E         |             | 0012        | S03  | E70 | .941        | 18017                   | 19.2       | 37D          | 1N  | C           | 2335                 | 100                            |                  | D       |  |
| GRP99269 | 13   | 2344+9        | 2346        | 0058        | N14  | W32 | .551        | 17992                   | 11.6       | 74           | -N  |             |                      |                                |                  | E       |  |
|          |      |               | 2411        |             |      |     |             |                         |            |              |     |             |                      |                                |                  |         |  |
| PURP     | 14   | 0025          | 0026        | 0055        | N15  | W33 | .569        | 17992                   | 11.5       | 30           | -N  | * C         | 0026                 | 79                             | 1.0              |         |  |
| YUNN     | 14   | 0039E         | 0041        | 0102        | N14  | W32 | .551        | 17992                   | 11.6       | 23D          | -N  | * P         |                      | 160                            | 2.0              | E       |  |
| LEAR     | 13   | 2344          | 2346        | 2358        | N17  | W33 | .577        | 17992                   | 11.5       | 14           | -B  | * C         |                      | 48                             |                  |         |  |
| MITK     | 13   | 2357          | 2411        | 0100        | N14  | W32 | .551        | 17992                   | 11.6       | 63           | -N  | * C         | 2411                 |                                |                  | E       |  |
| GRP99270 | 13   | 2352+7        | 2356+4      | 0015        | N15  | E07 | .238        | 18006                   | 14.5       | 23           | -N  |             |                      | 100                            | 1.0              |         |  |
| CULG     | 13   | 2352          | 2356        | 0006D       | N16  | E07 | .252        | 18006                   | 14.5       | 14D          | -N  | P           | 2356                 | 100                            | 1.0              |         |  |
| LEAR     | 13   | 2352          | 2358        | 0021        | N15  | E09 | .256        | 18006                   | 14.7       | 29           | 1B  | 3 C         |                      | 211                            |                  | F       |  |
| MITK     | 13   | 2357          | 2400        | 0010        | N17  | E08 | .275        | 18006                   | 14.6       | 13           | -N  | C           | 2400                 |                                |                  | E       |  |
| PALE     | 13   | 2359          | 2359        | 0015        | N15  | E07 | .238        | 18006                   | 14.5       | 16           | -N  | 3 C         |                      | 90                             |                  |         |  |
| GRP99271 | 14   | 0056+3        | 0102+1      | 0115        | S03  | E71 | .947        | 18017                   | 19.4       | 19           | 1N  |             |                      | 90                             |                  | EW      |  |
| PALE     | 14   | 0037E         | 0103U       | 0114D       | S02  | E74 | .962        | 18017                   | 19.6       | 37D          | 1N  | 3 C         |                      | 95                             |                  |         |  |
| LEAR     | 14   | 0056          | 0103        | 0123        | S03  | E71 | .947        | 18017                   | 19.4       | 27           | 2B  | 3 C         |                      | 216                            |                  |         |  |
| YUNN     | 14   | 0059          | 0102        | 0114        | S03  | E71 | .947        | 18017                   | 19.4       | 15           | 1B  | P           |                      | 112                            |                  | W       |  |
| PURP     | 14   | 0102E         | 0102        | 0115        | S03  | E70 | .941        | 18017                   | 19.3       | 13D          | -B  | C           | 0102                 | 73                             |                  | E       |  |
| CULG     | 14   | 0102E         | 0103D       | 0105        | S01  | E72 | .952        | 18017                   | 19.4       | 3D           | -F  | P           | 0103                 | 60                             |                  |         |  |
| 272      | CULG | 14            | 0258        | 0259        | 0305 | S01 | E66         | .914                    | 18017      | 19.1         | 7   | -F          | C                    | 0259                           | 40               |         |  |
| 273      | LEAR | 14            | 0318        | 0319        | 0330 | N02 | W40         | .642                    | 17997      | 11.1         | 12  | -F          | 3 C                  |                                | 26               |         |  |
| 274      | CULG | 14            | 0332        | 0347        | 0359 | N13 | W20         | .377                    | 18000      | 12.6         | 27  | -F          | C                    | 0347                           | 90               | 1.0     |  |
| GRP99275 | 14   | 0334+1        | 0335+3      | 0347        | N19  | E04 | .284        | 18006                   | 14.4       | 13           | -F  |             |                      | 50                             | .5               | F       |  |
| CULG     | 14   | 0334          | 0338        | 0349        | N20  | E02 | .294        | 18006                   | 14.3       | 15           | -F  | C           | 0338                 | 50                             | .5               |         |  |
| LEAR     | 14   | 0335          | 0335        | 0345        | N18  | E06 | .278        | 18006                   | 14.6       | 10           | -F  | 3 C         |                      | 57                             |                  | F       |  |
| GRP99276 | 14   | 0343+2        | 0346+1      | 0359        | S18  | W42 | .724        | 17989                   | 11.0       | 16           | -F  |             |                      | 45                             | .6               | F       |  |
| CULG     | 14   | 0343          | 0347        | 0404U       | S19  | W43 | .739        | 17989                   | 10.9       | 21D          | -F  | P           | 0347                 | 50                             | .8               |         |  |
| LEAR     | 14   | 0345          | 0346        | 0353        | S18  | W41 | .713        | 17989                   | 11.1       | 8            | -N  | 3 C         |                      | 36                             |                  | F       |  |
| GRP99277 | 14   | 0419+2        | 0423+2      | 0429        | N17  | W36 | .616        | 17992                   | 11.5       | 10           | -N  |             |                      | 90                             | 1.1              | F       |  |
| CULG     | 14   | 0419          | 0423U       | 0427D       | N16  | W38 | .637        | 17992                   | 11.3       | 8D           | -N  | C           | 0423                 | 80                             | 1.0              |         |  |
| LEAR     | 14   | 0421          | 0425        | 0430        | N18  | W35 | .608        | 17992                   | 11.6       | 9            | -N  | 3 C         |                      | 60                             |                  | F       |  |
| YUNN     | 14   | 0422E         | 0425        | 0427        | N17  | W36 | .616        | 17992                   | 11.5       | 5D           | -N  | P           |                      | 128                            | 1.7              |         |  |
| 278      | YUNN | 14            | 0441        | 0445        | 0453 | N02 | W45         | .707                    | 17997      | 10.8         | 12  | -F          | C                    |                                | 64               | .9      |  |



## H - ALPHA SOLAR FLARES

NOVEMBER 1981

| Sta      | Day | Start<br>(UT) | Max<br>(UT) | End<br>(UT) | Lat | CMD | Can<br>Dist | Hale<br>P Plage<br>Region | CMP<br>Day | Dur<br>(Min) | Imp | Obs<br>Type | Area<br>Time<br>(UT) | Measurement<br>Appar<br>(Disk) | Corr<br>(Sq Deg) | Remarks |
|----------|-----|---------------|-------------|-------------|-----|-----|-------------|---------------------------|------------|--------------|-----|-------------|----------------------|--------------------------------|------------------|---------|
| GRP99279 | 14  | 0524+6        | 0537+3      | 0602        | N18 | E03 | .264        | 18006                     | 14.4       | 38           | 1B  |             |                      | 320                            | 3.3              | E       |
| CULG     | 14  | 0524U         | 0537        | 0603        | N19 | E03 | .280        | 18006                     | 14.4       | 39D          | 1B  | P           | 0537                 | 220                            | 2.2              |         |
| MITK     | 14  | 0525          | 0540        | 0559D       | N18 | E03 | .264        | 18006                     | 14.5       | 34D          | 1N  | C           | 0540                 | 290                            | 3.1              | E       |
| LEAR     | 14  | 0526          | 0538        | 0608        | N18 | E04 | .267        | 18006                     | 14.5       | 42           | 1B  | 3 C         |                      | 502                            |                  | FE      |
| YUNN     | 14  | 0529          | 0537        | 0605        | N18 | E03 | .264        | 18006                     | 14.5       | 36           | 1B  | C           | 0539                 | 401                            | 4.3              | F       |
| PURP     | 14  | 0530          | 0540        | 0553        | N19 | E04 | .284        | 18006                     | 14.5       | 23           | 1N  | C           | 0540                 | 297                            | 3.2              |         |
| PEKG     | 14  | 0541E         | 0541        | 0600        | N18 | E03 | .264        | 18006                     | 14.5       | 19D          | 1N  | P           | 0541                 | 294                            | 3.2              | E       |
| 280 YUNN | 14  | 0529          | 0534        | 0537        | N02 | W44 | .694        | 17997                     | 10.9       | 8            | -N  | P           |                      | 80                             | 1.2              | E       |
| 281 YUNN | 14  | 0529E         | 0534        | 0540        | N14 | W34 | .578        | 17992                     | 11.7       | 11D          | -N  | P           |                      | 64                             | .8               | E       |
| GRP99282 | 14  | 0540+0        | 0543+1      | 0603        | N19 | W36 | .625        | 17992                     | 11.5       | 23           | -N  |             |                      | 60                             | .8               | J       |
| LEAR     | 14  | 0540          | 0544        | 0608        | N19 | W35 | .613        | 17992                     | 11.6       | 28           | -B  | 3 C         |                      | 58                             |                  | FE      |
| CULG     | 14  | 0540          | 0543        | 0603        | N18 | W38 | .645        | 17992                     | 11.4       | 23           | -F  | C           | 0543                 | 50                             | .7               | J       |
| YUNN     | 14  | 0540          | 0544        | 0557        | N19 | W36 | .625        | 17992                     | 11.5       | 17           | -N  | C           |                      | 64                             | .8               |         |
| GRP99283 | 14  | 0659          | 0702+3      | 0711        | N18 | E03 | .264        | 18006                     | 14.5       | 12           | -F  |             |                      | 70                             | .7               |         |
| LEAR     | 14  | 0659          | 0702        | 0713        | N18 | E04 | .267        | 18006                     | 14.6       | 14           | -F  | 3 C         |                      | 62                             |                  | F       |
| YUNN     | 14  | 0701E         | 0705        | 0709        | N18 | E03 | .264        | 18006                     | 14.5       | 8D           | -F  | P           |                      | 80                             | .9               | E       |
| 284 YUNN | 14  | 0717          | 0724        | 0727        | S03 | E65 | .908        | 18017                     | 19.2       | 10           | -F  | C           |                      | 32                             | .8               | E       |
| GRP99285 | 14  | 0720+7        | 0726+4      | 0738        | N19 | W35 | .613        | 17992                     | 11.7       | 18           | -N  |             |                      | 80                             | 1.0              | EJ      |
| CATA     | 14  | 0720E         | 0730        | 0740D       | N19 | W36 | .625        | 17992                     | 11.6       | 20D          | -   | 2 P         | 0730                 | 112                            | 1.5              |         |
| YUNN     | 14  | 0721          | 0727        | 0737        | N18 | W35 | .608        | 17992                     | 11.7       | 16           | -N  | C           |                      | 112                            | 1.5              | E       |
| CULG     | 14  | 0723          | 0727        | 0732        | N18 | W39 | .657        | 17992                     | 11.4       | 9            | -F  | C           | 0727                 | 50                             | .7               | J       |
| LEAR     | 14  | 0726          | 0726        | 0736        | N19 | W35 | .613        | 17992                     | 11.7       | 10           | -N  | 3 C         |                      | 76                             |                  | F       |
| PURP     | 14  | 0727          | 0728        | 0742        | N20 | W35 | .618        | 17992                     | 11.7       | 15           | -N  | C           | 0728                 | 66                             | .5               | E       |
| 286 ISTA | 14  | 0803          |             | 0812        | N19 | W37 | .637        | 17992                     | 11.6       | 9            | -N  |             |                      |                                |                  | E       |
| 287 ATHN | 14  | 0900          | 0902        | 0905        | N02 | W39 | .629        | 17997                     | 11.5       | 5            | -B  | 2 V         | 0902                 | 64                             | .8               |         |
| 288 KANZ | 14  | 1016E         | 1019        | 1023        | N16 | W39 | .649        | 17992                     | 11.5       | 7D           | -N  | 2           |                      |                                |                  |         |
| 289 KANZ | 14  | 1043          |             | 1113        | N01 | W46 | .719        | 17997                     | 11.0       | 30           | -F  | 2           |                      |                                |                  |         |
| 290 KANZ | 14  | 1200          | 1208        | 1220        | S01 | E60 | .867        | 18017                     | 19.0       | 20           | -N  | 2           |                      |                                |                  |         |
| GRP99291 | 14  | 1220          | 1227+1      | 1255        | N18 | W01 | .260        | 18006                     | 14.4       | 35           | -N  |             |                      |                                |                  |         |
| KANZ     | 14  | 1220          | 1228        | 1247        | N18 | W01 | .260        | 18006                     | 14.4       | 27           | -N  | 3           |                      |                                |                  |         |
| RAMY     | 14  | 1222E         | 1227        | 1303        | N18 | W01 | .260        | 18006                     | 14.4       | 41D          | -N  | 3 C         |                      | 91                             |                  |         |
| 292 KANZ | 14  | 1224          | 1224        | 1232        | N18 | W40 | .669        | 17992                     | 11.5       | 8            | -F  | 3           |                      |                                |                  |         |
| GRP99293 | 14  | 1242+1        | 1243+1      | 1253        | 00  | W48 | .744        | 17997                     | 10.9       | 11           | -F  |             |                      |                                |                  |         |
| RAMY     | 14  | 1242          | 1244        | 1251        | S00 | W48 | .744        | 17997                     | 10.9       | 9            | -N  | 3 C         |                      | 46                             |                  |         |
| KANZ     | 14  | 1243          | 1243        | 1255        | N01 | W48 | .743        | 17997                     | 10.9       | 12           | -F  | 3           |                      |                                |                  |         |
| 294 RAMY | 14  | 1316          | 1337        | 1341        | S19 | W56 | .860        | 17989                     | 10.4       | 25           | -F  | 3 C         |                      | 28                             |                  |         |
| 295 RAMY | 14  | 1331          | 1332        | 1341        | S00 | W48 | .744        | 17997                     | 11.0       | 10           | -N  | 3 C         |                      | 20                             |                  |         |
| GRP99296 | 14  | 1350+9        | 1424        | 1541D       | S17 | W52 | .820        | 17989                     | 10.7       | 111          | -N  |             |                      |                                |                  |         |
| RAMY     | 14  | 1350          | 1424        | 1541D       | S18 | W54 | .840        | 17989                     | 10.5       | 111D         | 1N  | * C         |                      | 300                            |                  |         |
| KANZ     | 14  | 1406          |             | 1432D       | S16 | W51 | .808        | 17989                     | 10.8       | 26D          | -F  | *           |                      |                                |                  |         |
| 297 RAMY | 14  | 1351          | 1352        | 1410        | N13 | W12 | .268        | 18012                     | 13.7       | 19           | -F  | 3 C         |                      | 27                             |                  |         |
| GRP99298 | 14  | 1402+2        | 1402        | 1428        | N17 | W01 | .243        | 18006                     | 14.5       | 26           | -N  |             |                      |                                |                  |         |
| KANZ     | 14  | 1402          | 1402        | 1429        | N18 | W01 | .260        | 18006                     | 14.5       | 27           | -N  | 1           |                      |                                |                  |         |
| RAMY     | 14  | 1404          | 1413        | 1427        | N17 | W01 | .243        | 18006                     | 14.5       | 23           | -N  | 3 C         |                      | 41                             |                  |         |
| GRP99299 | 14  | 1417+2        | 1420+5      | 1430        | 00  | W48 | .744        | 17997                     | 11.0       | 13           | -N  |             |                      |                                |                  |         |
| KANZ     | 14  | 1417          | 1425        | 1429        | S00 | W49 | .755        | 17997                     | 10.9       | 12           | -N  | 1           |                      |                                |                  |         |
| RAMY     | 14  | 1419          | 1420        | 1430        | N01 | W48 | .743        | 17997                     | 11.0       | 11           | -N  | 3 C         |                      | 20                             |                  |         |
| 300 HOLL | 14  | 1501          | 1503        | 1523        | N19 | W03 | .280        | 18006                     | 14.4       | 22           | -N  | 3 C         |                      | 33                             |                  | F       |

## H - ALPHA SOLAR FLARES

81  
Nov 81

NOVEMBER 1981

| Sta      | Day       | Start<br>(UT) | Max<br>(UT) | End<br>(UT)     | Lat | CMD  | Gen<br>Dist | Hale<br>Plage<br>Region | CMP<br>Day | Dur<br>(Min) | Imp | Obs<br>Type | Area<br>Time<br>(UT) | Measurement<br>Appar<br>(Disk) | Corr<br>(Sq Deg) | Remarks |
|----------|-----------|---------------|-------------|-----------------|-----|------|-------------|-------------------------|------------|--------------|-----|-------------|----------------------|--------------------------------|------------------|---------|
| 301      | HOLL      | 14 1515       | 1539        | 1621            | S03 | E59  | .860        | 18017                   | 19.1       | 66           | -F  | 3 C         |                      | 74                             |                  |         |
|          |           | 14 1556       | 1606        | NO FLARE PATROL |     |      |             |                         |            |              |     |             |                      |                                |                  |         |
| 302      | HOLL      | 14 1616       | 1616        | 1623            | N01 | W49  | .755        | 17997                   | 11.0       | 7            | -F  | 3 C         |                      | 19                             |                  | F       |
| 303      | HOLL      | 14 1624       | 1631        | 1635            | N02 | W49  | .754        | 17997                   | 11.0       | 11           | -F  | 3 C         |                      | 23                             |                  |         |
| 304      | HOLL      | 14 1639       | 1655        | 1658            | N02 | W50  | .766        | 17997                   | 10.9       | 19           | -F  | 3 C         |                      | 25                             |                  | F       |
| 305      | HOLL      | 14 1651       | 1702        | 1740            | N14 | W41  | .668        | 17992                   | 11.0       | 49           | -N  | 3 C         |                      | 122                            |                  | F       |
| 306      | HOLL      | 14 1700       | 1701        | 1710            | N01 | W50  | .766        | 17997                   | 11.0       | 10           | -N  | 3 C         |                      | 22                             |                  | F       |
| 307      | HOLL      | 14 1714       | 1714        | 1727            | N01 | W47  | .731        | 17997                   | 11.2       | 13           | -N  | 3 C         |                      | 23                             |                  | F       |
|          |           | 14 1742       | 1747        | NO FLARE PATROL |     |      |             |                         |            |              |     |             |                      |                                |                  |         |
| 308      | HOLL      | 14 1826       | 1826        | 1834            | N01 | W48  | .743        | 17997                   | 11.2       | 8            | -F  | 3 C         |                      | 21                             |                  |         |
| 309      | HOLL      | 14 1924E      | 1928        | 1933            | S03 | E59  | .860        | 18017                   | 19.2       | 9D           | -F  | 3 C         |                      | 35                             |                  |         |
| 310      | HOLL      | 14 1924E      | 1928U       | 1941            | N18 | W43  | .703        | 17992                   | 11.6       | 17D          | -B  | 3 C         |                      | 79                             |                  | F       |
| 311      | HOLL      | 14 1926       | 1930        | 1936            | S18 | W54  | .840        | 17989                   | 10.8       | 10           | -F  | 3 C         |                      | 62                             |                  | F       |
|          |           | 14 2045       | 2222        | NO FLARE PATROL |     |      |             |                         |            |              |     |             |                      |                                |                  |         |
| GRP99312 | 14 2209E  | 2219          | 2223D       | N15             | W47 | .741 | 17992       | 11.4                    | 14         | 2B           |     |             | 590                  | 8.8                            |                  | UY      |
| HOLL     | 14 2209E  | 2219          | 2257D       | N16             | W49 | .765 | 17992       | 11.2                    | 48D        | 2B           | 3 C |             | 525                  |                                |                  | UY      |
| LEAR     | 14 2223E  | 2225          | 2225D       | N15             | W45 | .718 | 17992       | 11.6                    | 2D         | 2B           | 2 C |             | 652                  |                                |                  | FE      |
| GRP99313 | 14 2318+2 | 2332+2        | 0002        | S19             | W38 | .687 | 17996       | 12.1                    | 44         | -F           |     |             | 90                   | 1.2                            |                  | F       |
| PALE     | 14 2318   | 2332          | 0006        | S20             | W38 | .692 | 17996       | 12.1                    | 48         | -F           | 3 C |             | 110                  |                                |                  |         |
| LEAR     | 14 2320   | 2334          | 2358        | S19             | W38 | .687 | 17996       | 12.1                    | 38         | -N           | 3 C |             | 74                   |                                |                  | F       |
| 314      | LEAR      | 14 2328       | 2332        | 2349            | N15 | W04  | .219        | 18006                   | 14.7       | 21           | -N  | 3 C         |                      | 70                             |                  | F       |
| GRP99315 | 14 2330+1 | 2339+5        | 0013        | S02             | E54 | .811 | 18017       | 19.0                    | 43         | 1N           |     |             | 150                  | 2.6                            |                  |         |
|          |           | 2358          |             |                 |     |      |             |                         |            |              |     |             |                      |                                |                  |         |
| LEAR     | 14 2330   | 2344          | 0015        | S03             | E54 | .812 | 18017       | 19.0                    | 45         | 1N           | 3 C |             | 163                  |                                |                  | F       |
| PALE     | 14 2331   | 2339          | 0013        | S02             | E52 | .952 | 18017       | 18.9                    | 42         | 1F           | 3 C |             | 144                  |                                |                  |         |
| PEKG     | 14 2355   | 2358          | 0000        | S02             | E54 | .811 | 18017       | 19.0                    | 5          | 1N           | C   | 2358        | 147                  | 2.6                            |                  | E       |
| 316      | LEAR      | 14 2344       | 2346        | 2358            | N17 | W33  | .578        | 17998                   | 12.5       | 14           | -B  | 3 C         |                      | 48                             |                  |         |
| GRP99317 | 14 2352+7 | 2358+1        | 0018        | N15             | E08 | .248 | 18013       | 15.6                    | 26         | -B           |     |             |                      |                                |                  | F       |
| LEAR     | 14 2352   | 2358          | 0021        | N15             | E09 | .258 | 18013       | 15.7                    | 29         | 1B           | 3 C |             | 211                  |                                |                  | F       |
| PALE     | 14 2359   | 2359          | 0015        | N15             | E07 | .239 | 18013       | 15.5                    | 16         | -N           | 3 C |             | 90                   |                                |                  |         |
| 318      | PEKG      | 15 0006E      | 0006        | 0010D           | N03 | W55  | .818        | 17997                   | 10.9       | 4D           | -F  | C           | 0006                 | 50                             | .9               | E       |
| 319      | PEKG      | 15 0106       | 0108        | 0112            | N17 | W48  | .757        | 17992                   | 11.4       | 6            | -N  | C           | 0108                 | 29                             | .5               | D       |
| 320      | PEKG      | 15 0108E      | 0108        | 0108D           | S07 | W93  | 1.000       | 17984                   | 8.3        |              | -N  | C           | 0108                 | 50                             |                  | AD      |
| GRP99321 | 15 0130+4 | 0136+4        | 0159        | N19             | W09 | .315 | 18006       | 14.4                    | 29         | 1N           |     |             | 320                  | 3.4                            |                  | F       |
|          |           | 0146          |             |                 |     |      |             |                         |            |              |     |             |                      |                                |                  |         |
| CULG     | 15 0130   | 0136          | 0150D       | N19             | W10 | .323 | 18006       | 14.3                    | 20D        | 1N           | P   | 0136        | 380                  | 4.2                            |                  |         |
| MITK     | 15 0134   | 0136          | 0144D       | N20             | W08 | .323 | 18006       | 14.5                    | 10D        | 1N           | C   | 0136        | 300                  | 3.2                            |                  | E       |
| PURP     | 15 0134   | 0137          | 0157        | N20             | W09 | .530 | 18006       | 14.4                    | 23         | 1N           | C   | 0134        | 350                  | 3.8                            |                  |         |
| MANI     | 15 0138E  | 0140          | 0148D       | N19             | W10 | .323 | 18006       | 14.3                    | 10D        | 1B           | 1 V |             | 250                  | 2.7                            |                  | F       |
| PEKG     | 15 0142E  | 0146          | 0200        | N19             | W09 | .315 | 18006       | 14.4                    | 18D        | 1B           | C   | 0146        | 239                  | 2.6                            |                  | F       |
| GRP99322 | 15 0200+0 | 0203+3        | 0232        | S03             | E56 | .832 | 18017       | 19.3                    | 32         | -N           |     |             | 110                  | 2.0                            |                  |         |
| PURP     | 15 0200   | 0203          | 0244        | S03             | E59 | .860 | 18017       | 19.5                    | 44         | -N           | C   | 0203        | 106                  | 1.9                            |                  | E       |
| PEKG     | 15 0200   | 0206          | 0220        | S03             | E54 | .812 | 18017       | 19.1                    | 20         | -N           | C   | 0206        | 105                  | 1.9                            |                  | F       |
| 323      | PEKG      | 15 0239       | 0240        | 0247            | N22 | W41  | .696        | 17993                   | 12.0       | 8            | -N  | C           | 0240                 | 55                             | .8               | E       |
| 324      | PEKG      | 15 0305       | 0307        | 0308            | N18 | W49  | .770        | 17992                   | 11.5       | 3            | -N  | C           | 0307                 | 25                             | .4               | D       |

## H - ALPHA SOLAR FLARES

NOVEMBER 1981

| Sta      | Day       | Start<br>(UT) | Max<br>(UT)     | End<br>(UT) | Lat | CMD  | Hale<br>Cen<br>Dist | Plage<br>Region | CMP<br>Day | Dur<br>(Min) | Obs<br>Imp | Type | Area<br>Time<br>(UT) | Measurement<br>Appar<br>(Disk) | Corr<br>(Sq Deg) | Remarks |
|----------|-----------|---------------|-----------------|-------------|-----|------|---------------------|-----------------|------------|--------------|------------|------|----------------------|--------------------------------|------------------|---------|
| 325      | PEKG      | 15 0309       | 0320            | 0326        | S03 | E53  | .802                | 18017           | 19.1       | 17           | ?N         | C    | 0320                 | 143                            | 2.4              | E       |
|          |           |               | IMP.1           | NO : LEAR   |     | MITK |                     |                 |            |              |            |      |                      |                                |                  |         |
| GRP99326 | 15 0429E  | 0429          | 0444D           | S02         | E50 | .769 | 18017               | 18.9            | 15         | -N           |            |      |                      | 80                             | 1.2              | J       |
| MANI     | 15 0429E  | 0429          | 0432D           | S03         | E49 | .758 | 18017               | 18.9            | 3D         | -N           | 1          | V    |                      | 60                             | .9               |         |
| CULG     | 15 0433E  | 0433U         | 0444D           | S02         | E52 | .790 | 18017               | 19.1            | 11D        | -N           |            | P    | 0433                 | 110                            | 1.8              | J       |
| 327      | ABST      | 15 0600E      | 0600            | 0610D       | N04 | W57  | .838                | 17997           | 11.0       | 10D          | -F         | P    | 0600                 | 87                             | 1.7              | EJK     |
| 328      | ABST      | 15 0648       | 0649            | 0652        | N20 | W51  | .794                | 17992           | 11.5       | 4            | -F         | C    | 0649                 | 131                            | 2.0              | EJK     |
| 329      | ABST      | 15 0649       | 0651            | 0658        | N23 | W43  | .722                | 17993           | 12.1       | 9            | -N         | C    | 0651                 | 97                             | 1.3              | D       |
| 330      | ABST      | 15 0747       | 0749            | 0807        | N20 | W51  | .794                | 17992           | 11.5       | 20           | -N         | C    | 0749                 | 131                            | 2.0              | EJ      |
| 331      | ABST      | 15 0750       | 0751            | 0807        | N23 | W43  | .722                | 17993           | 12.1       | 17           | -F         | C    | 0751                 | 131                            | 1.8              | E       |
| 332      | ABST      | 15 0820       | 0824            | 0830        | S04 | E50  | .771                | 18017           | 19.1       | 10           | -N         | C    | 0824                 | 131                            | 2.0              | EJ      |
| 333      | ABST      | 15 0822       | 0827            | 0846        | N04 | W57  | .838                | 17997           | 11.1       | 24           | -N         | C    | 0827                 | 87                             | 1.7              | EJ      |
| 334      | HTPR      | 15 1006       | 1009            | 1016        | S18 | E42  | .723                |                 | 18.6       | 10           | -N         | C    | 1009                 | 60                             | .8               | E       |
| GRP99335 | 15 1017+1 | 1020+1        | 1028            | S17         | W61 | .894 | 17989               | 10.9            | 11         | -F           |            |      |                      |                                |                  | E       |
| KANZ     | 15 1017E  | 1021          | 1029            | S18         | W61 | .896 | 17989               | 10.9            | 12D        | -N           | 1          |      |                      |                                |                  |         |
| HTPR     | 15 1018   | 1020          | 1026            | S17         | W62 | .901 | 17989               | 10.8            | 8          | -F           |            | C    | 1020                 | 50                             | 1.0              | E       |
| GRP99336 | 15 1142   | 1149+1        | 1159            | N16         | W13 | .315 | 18006               | 14.5            | 17         | -N           |            |      |                      | 35                             | .4               |         |
| HTPR     | 15 1142   | 1149          | 1157            | N16         | W12 | .303 | 18006               | 14.6            | 15         | -N           |            | C    | 1149                 | 20                             | .2               |         |
| CATA     | 15 1145E  | 1150          | 1200D           | N16         | W14 | .326 | 18006               | 14.4            | 15D        | -            | 2          | P    | 1150                 | 45                             | .5               |         |
| GRP99337 | 15 1309+1 | 1315+3        | 1329            | N15         | W12 | .291 | 18006               | 14.6            | 20         | -N           |            |      |                      |                                |                  | E       |
| HTPR     | 15 1309   | 1315          | 1323            | N16         | W11 | .293 | 18006               | 14.7            | 14         | -N           |            | C    | 1315                 | 60                             | .6               | E       |
| KANZ     | 15 1310   | 1318          | 1334            | N15         | W14 | .315 | 18006               | 14.5            | 24         | -N           | 2          |      |                      |                                |                  |         |
| GRP99338 | 15 1421+0 | 1423+2        | 1511            | S06         | E59 | .862 | 18017               | 20.0            | 50         | 1B           |            |      |                      |                                |                  | EHY     |
|          |           | 1438          |                 |             |     |      |                     |                 |            |              |            |      |                      |                                |                  |         |
| HTPR     | 15 1421   | 1424          | 1505            | S06         | E60 | .871 | 18017               | 20.1            | 44         | 1B           |            | C    | 1424                 | 120                            | 2.4              | EY      |
| KANZ     | 15 1421   | 1425          | 1429D           | S04         | E59 | .860 | 18017               | 20.0            | 8D         | -B           | 2          |      |                      |                                |                  | H       |
| RAMY     | 15 1421   | 1423          | 1529            | S06         | E60 | .871 | 18017               | 20.1            | 68         | 2B           | 3          | C    |                      | 396                            |                  |         |
| HOLL     | 15 1429E  | 1438          | 1511            | S06         | E58 | .853 | 18017               | 20.0            | 42D        | 1B           | 3          | C    |                      | 253                            |                  |         |
| GRP99339 | 15 1528+1 | 1529+3        | 1559            | N20         | W51 | .794 | 17993               | 11.8            | 31         | -N           |            |      |                      | 50                             | .8               | E       |
| RAMY     | 15 1528   | 1529          | 1559            | N20         | W51 | .794 | 17993               | 11.8            | 31         | -N           | 3          | C    |                      | 50                             |                  |         |
| HTPR     | 15 1528   |               | 1533D           | N20         | W49 | .774 | 17993               | 12.0            | 5D         | -N           |            | C    | 1532                 | 60                             | .9               | E       |
| HOLL     | 15 1529   | 1532          | 1543D           | N19         | W54 | .821 | 17993               | 11.6            | 14D        | -N           | 2          | C    |                      | 35                             |                  |         |
|          | 15 1544   | 1550          | NO FLARE PATROL |             |     |      |                     |                 |            |              |            |      |                      |                                |                  |         |
| 340      | RAMY      | 15 1554       | 1554            | 1607        | N01 | W60  | .866                | 17997           | 11.2       | 13           | -F         | 3    | C                    |                                | 35               |         |
| GRP99341 | 15 1648+1 | 1648+1        | 1700            | N18         | W54 | .819 | 17992               | 11.6            | 12         | -N           |            |      |                      | 20                             | .4               |         |
| HOLL     | 15 1648   | 1648          | 1700            | N17         | W53 | .808 | 17992               | 11.7            | 12         | -N           | 3          | C    |                      | 20                             |                  |         |
| RAMY     | 15 1649   | 1649          | 1659            | N19         | W55 | .830 | 17992               | 11.6            | 10         | -N           | 3          | C    |                      | 16                             |                  |         |
| GRP99342 | 15 1722+4 | 1728+1        | 1743            | N22         | W49 | .780 | 17993               | 12.0            | 21         | -F           |            |      |                      | 30                             | .5               |         |
| RAMY     | 15 1722   | 1728          | 1753            | N22         | W49 | .780 | 17993               | 12.0            | 31         | -F           | 3          | C    |                      | 35                             |                  |         |
| HOLL     | 15 1726   | 1729          | 1733            | N23         | W49 | .782 | 17993               | 12.1            | 7          | -F           | 3          | C    |                      | 18                             |                  |         |
| 343      | HOLL      | 15 1853       | 1858            | 1906        | N19 | W55  | .830                | 17992           | 11.7       | 13           | -N         | 3    | C                    |                                | 19               |         |
|          | 15 1920   | 1944          | NO FLARE PATROL |             |     |      |                     |                 |            |              |            |      |                      |                                |                  |         |
| 344      | HOLL      | 15 2244       | 2244            | 2301        | S03 | E54  | .812                | 18017           | 20.0       | 17           | -F         | 3    | C                    |                                | 15               |         |
| 345      | HOLL      | 15 2320       | 2325            | 2328        | S18 | W76  | .977                | 17989           | 10.3       | 8            | -F         | 3    | C                    |                                |                  |         |
| 346      | LEAR      | 15 2329       | 2331            | 2344        | S17 | W66  | .927                | 17989           | 11.0       | 15           | -F         | 3    | C                    |                                | 47               |         |
| 347      | LEAR      | 15 2346       | 2349            | 0015        | N19 | W58  | .856                | 17992           | 11.6       | 29           | -F         | 3    | C                    |                                | 29               |         |

| Sta      | Day | Start<br>(UT)             | Max<br>(UT) | End<br>(UT)     | Lat | CMD | Hale        |                 |            | Dur<br>(Min) | Imp | Obs<br>Type | Area Measurement |                 |                  | Remarks |
|----------|-----|---------------------------|-------------|-----------------|-----|-----|-------------|-----------------|------------|--------------|-----|-------------|------------------|-----------------|------------------|---------|
|          |     |                           |             |                 |     |     | Can<br>Dist | Plane<br>Region | CMP<br>Day |              |     |             | Time<br>(UT)     | Appar<br>(Disk) | Corr<br>(Sq Deg) |         |
| GRP99348 | 16  | 0037+1                    | 0048+1      | 0110            | N19 | W59 | .865        | 17992           | 11.6       | 33           | -F  |             |                  | 50              | 1.0              | F       |
| LEAR     | 16  | 0037                      | 0049        | 0109            | N20 | W58 | .858        | 17992           | 11.7       | 32           | -N  | 3           | C                | 32              |                  | F       |
| CULG     | 16  | 0038                      | 0048        | 0111            | N19 | W61 | .881        | 17992           | 11.5       | 33           | -F  |             | C                | 0048            | 50               | 1.1     |
| GRP99349 | 16  | 0339+6                    | 0344+3      | 0358            | S03 | E40 | .648        | 18017           | 19.2       | 19           | -N  |             |                  | 80              | 1.1              | EJ      |
| CULG     | 16  | 0339                      | 0344        | 0400            | S02 | E41 | .659        | 18017           | 19.2       | 21           | -N  |             | C                | 0344            | 80               | 1.0     |
| PEKG     | 16  | 0345                      | 0347        | 0355            | S04 | E40 | .650        | 18017           | 19.2       | 10           | -N  |             | P                | 0347            | 92               | 1.3     |
| 350 CULG | 16  | 0449                      | 0453        | 0500            | N18 | W63 | .895        | 17992           | 11.5       | 11           | -F  |             | C                | 0453            | 30               | .7      |
| GRP99351 | 16  | 0626+9                    | 0638+6      | 0655            | N19 | W18 | .406        | 18006           | 14.9       | 29           | -F  |             |                  | 100             | 1.1              | E       |
| CULG     | 16  | 0626                      | 0638        | 0653            | N21 | W21 | .460        | 18006           | 14.7       | 27           | -F  |             | C                | 0638            | 30               | .3      |
| LEAR     | 16  | 0633                      | 0638        | 0703D           | N19 | W18 | .406        | 18006           | 14.9       | 30D          | -F  | 3           | C                | 113             |                  | F       |
| YUNN     | 16  | 0635                      | 0644        | 0656            | N18 | W18 | .596        | 18006           | 14.9       | 21           | -N  |             | C                | 176             | 2.0              | E       |
| PEKG     | 16  | 0638                      | 0642        | 0646            | N19 | W19 | .418        | 18006           | 14.9       | 8            | -N  |             | P                | 0642            | 101              | 1.1     |
| 352 YUNN | 16  | 0700                      | 0711        | 0719            | N21 | W56 | .843        | 17993           | 12.1       | 19           | -N  |             | C                | 48              | .9               | D       |
| 353 YUNN | 16  | 0739                      | 0747        | 0800            | N15 | W66 | .914        | 17992           | 11.4       | 21           | -N  |             | C                | 32              |                  | E       |
| 354 YUNN | 16  | 0744                      | 0747        | 0755            | N21 | W56 | .843        | 17993           | 12.1       | 11           | -N  |             | C                | 48              | .9               | D       |
| GRP99355 | 16  | 1236+4                    | 1246        | 1259            | N17 | W21 | .424        | 18006           | 15.0       | 23           | -F  |             |                  | 40              | .4               |         |
| HTRP     | 16  | 1236                      |             | 1250D           | N17 | W22 | .437        | 18006           | 14.9       | 14D          | -F  |             | C                | 1245            | 50               | .5      |
| WEND     | 16  | 1240                      | 1246        | 1259            | N18 | W21 | .432        | 18006           | 15.0       | 19           | -F  |             | C                | 1246            | 25               | .3      |
| GRP99356 | 16  | 1250+8                    | 1252        | 1315            | N20 | W65 | .911        | 17992           | 11.7       | 25           | -N  |             |                  |                 |                  | E       |
| WEND     | 16  | 1250                      | 1252        | 1315            | N23 | W67 | .926        | 17992           | 11.5       | 25           | -N  |             | C                | 1252            | 94               |         |
| KANZ     | 16  | 1256E                     | 1256        | 1314            | N19 | W65 | .910        | 17992           | 11.7       | 18D          | -N  | 2           |                  |                 |                  |         |
| HTRP     | 16  | 1258                      |             | 1315            | N20 | W64 | .904        | 17992           | 11.7       | 17           | -F  |             | C                | 1305            | 50               | 1.1     |
| GRP99357 | 16  | 1318+2                    | 1322+2      | 1341            | N17 | W22 | .437        | 18006           | 14.9       | 23           | -F  |             |                  | 70              | .8               |         |
| HTRP     | 16  | 1318                      | 1323        | 1344            | N17 | W22 | .437        | 18006           | 14.9       | 26           | -N  |             | C                | 1323            | 80               | .9      |
| KANZ     | 16  | 1318                      | 1322        | 1341            | N17 | W21 | .424        | 18006           | 15.0       | 23           | -F  | 2           |                  |                 |                  |         |
| WEND     | 16  | 1320                      | 1324        | 1340            | N18 | W22 | .445        | 18006           | 14.9       | 20           | -F  |             | C                | 1324            | 56               | .7      |
| 358 HTRP | 16  | 1451                      | 1503        | 1520            | N12 | W42 | .677        | 18012           | 13.5       | 29           | -F  |             | C                | 1503            | 40               | .5      |
| 359 HOLL | 16  | 1651                      | 1654        | 1656            | N15 | W69 | .934        | 17992           | 11.5       | 5            | -F  | 3           | C                | 16              |                  |         |
|          | 16  | 1901                      | 1930        | NO FLARE PATROL |     |     |             |                 |            |              |     |             |                  |                 |                  |         |
| 360 HOLL | 16  | 2025                      | 2027        | 2028D           | N11 | W46 | .724        | 18012           | 13.4       | 3D           | -B  | 3           | C                | 27              |                  |         |
|          | 16  | 2045                      | 2048        | NO FLARE PATROL |     |     |             |                 |            |              |     |             |                  |                 |                  |         |
|          | 16  | 2207                      | 2232        | NO FLARE PATROL |     |     |             |                 |            |              |     |             |                  |                 |                  |         |
| GRP99361 | 16  | 2254+1                    | 2257+0      | 2312            | N16 | W33 | .575        | 18006           | 14.5       | 18           | -N  |             |                  | 80              | 1.0              | H       |
| HOLL     | 16  | 2254                      | 2257        | 2311            | N16 | W33 | .575        | 18006           | 14.5       | 17           | -N  | 3           | C                | 95              |                  | H       |
| LEAR     | 16  | 2255                      | 2257        | 2312            | N16 | W33 | .575        | 18006           | 14.5       | 17           | -N  | 3           | C                | 56              |                  | H       |
| 362 LEAR | 16  | 2346                      | 2349        | 0015            | N19 | W58 | .857        | 17998           | 12.6       | 29           | -F  | 3           | C                | 29              |                  |         |
| 363 YUNN | 17  | 0125                      | 0130        | 0146            | N18 | W73 | .956        | 17992           | 11.6       | 21           | ?B  |             | C                | 160             |                  | E       |
|          |     | IMP.1 NO : VORO PURP MITK |             |                 |     |     |             |                 |            |              |     |             |                  |                 |                  |         |
| 364 YUNN | 17  | 0135                      | 0146        | 0159            | S15 | W53 | .822        | 18021           | 13.1       | 24           | -N  |             | C                | 48              | .9               |         |
| GRP99365 | 17  | 0155                      | 0200        | 0215            | N19 | W72 | .952        | 17992           | 11.7       | 20           | 1N  |             |                  |                 |                  | E       |
| MITK     | 17  | 0155                      | 0200        | 0215            | N20 | W73 | .957        | 17992           | 11.6       | 20           | 1N  |             | C                | 0200            | 180              | E       |
| MANI     | 17  | 0203E                     | 0203U       | 0208D           | N19 | W72 | .952        | 17992           | 11.7       | 5D           | -N  | 1           | V                | 80              | 1.8              |         |
| 366 YUNN | 17  | 0221                      | 0230        | 0246            | S15 | W53 | .822        | 18021           | 13.1       | 25           | -N  |             | C                | 96              | 1.7              |         |
| GRP99367 | 17  | 0328+0                    | 0328+2      | 0332            | S18 | W09 | .382        | 18023           | 16.5       | 4            | -N  |             |                  | 60              | .7               | G       |
| PURP     | 17  | 0328E                     | 0328        | 0330D           | S19 | W09 | .397        | 18023           | 16.5       | 2D           | -N  |             | V                | 73              | .8               | DG      |
| PEKG     | 17  | 0328                      | 0330        | 0332            | S17 | W09 | .367        | 18023           | 16.5       | 4            | -N  |             | P                | 0330            | 46               | .5      |
| 368 PURP | 17  | 0429                      | 0430        | 0433            | N19 | W80 | .984        | 17992           | 11.2       | 4            | ?N  |             | C                | 0430            | 211              |         |
|          |     | IMP.2 NO : PEKG           |             |                 |     |     |             |                 |            |              |     |             |                  |                 |                  |         |

## H - ALPHA SOLAR FLARES

NOVEMBER 1981

| Sta                       | Day | Start<br>(UT) | Max<br>(UT) | End<br>(UT)     | Lat | CMD | Hale |       | CMP  | Dur<br>(Min) | Imp | Obs<br>Type | Area Measurement |                 |                  | Remarks |
|---------------------------|-----|---------------|-------------|-----------------|-----|-----|------|-------|------|--------------|-----|-------------|------------------|-----------------|------------------|---------|
|                           |     |               |             |                 |     |     | Pen  | Plate |      |              |     |             | Time<br>(UT)     | Appar<br>(Disk) | Corr<br>(Sq Deg) |         |
| GRP99369                  | 17  | 0507+3        | 0512+0      | 0520            | S16 | W14 | .394 | 18023 | 16.2 | 13           | -F  |             |                  |                 |                  | E       |
| CULG                      | 17  | 0507U         | 0512U       | 0515U           | S17 | W13 | .398 | 18023 | 16.2 | 8D           | -F  | P           | 0512             | 60              | .7               |         |
| PEKG                      | 17  | 0510          | 0512        | 0520            | S16 | W15 | .404 | 18023 | 16.1 | 10           | -N  | P           | 0512             | 160             | 1.8              | E       |
| 370 CULG                  | 17  | 0530          | 0534        | 0538D           | S20 | W51 | .818 | 18021 | 13.4 | 8D           | -F  | P           | 0534             | 40              | .7               |         |
| GRP99371                  | 17  | 0541          | 0545+3      | 0550            | S18 | W52 | .821 | 18021 | 13.3 | 9            | -N  |             |                  |                 |                  | E       |
| PEKG                      | 17  | 0541          | 0548        | 0550            | S17 | W53 | .828 | 18021 | 13.3 | 9            | -N  | P           | 0548             | 105             | 1.9              | E       |
| YUNN                      | 17  | 0543E         | 0545        | 0549            | S19 | W52 | .824 | 18021 | 13.3 | 6D           | -N  | P           | 0545             | 32              | .6               | E       |
| 372 YUNN                  | 17  | 0559          | 0612        | 0620            | N21 | W69 | .936 | 17993 | 12.1 | 21           | -N  | C           |                  | 16              |                  | E       |
| 373 YUNN                  | 17  | 0603          | 0613        | 0620D           | S17 | W55 | .845 | 18021 | 13.1 | 17D          | ?N  | P           |                  | 176             | 3.4              | F       |
| IMP.1 NO : PEKG TACH PURP |     |               |             |                 |     |     |      |       |      |              |     |             |                  |                 |                  |         |
| 374 YUNN                  | 17  | 0630E         | 0636        | 0648            | S20 | W53 | .836 | 18021 | 13.3 | 18D          | -N  | P           |                  | 16              | .3               | BF      |
| 375 YUNN                  | 17  | 0641          | 0644        | 0652            | N19 | W77 | .974 | 17992 | 11.5 | 11           | -N  | C           |                  | 32              |                  | E       |
| 376 YUNN                  | 17  | 0641          | 0642        | 0644            | S05 | E23 | .410 | 18017 | 19.0 | 3            | -N  | C           |                  | 16              | .2               |         |
| 377 PEKG                  | 17  | 0740          | 0746        | 0800            | N20 | W78 | .978 | 17992 | 11.5 | 20           | ?F  | P           | 0746             | 63              |                  | E       |
| IMP.1 NO : TACH PURP YUNN |     |               |             |                 |     |     |      |       |      |              |     |             |                  |                 |                  |         |
| GRP99378                  | 17  | 0900+6        | 0906+2      | 0921            | N17 | W33 | .580 | 18006 | 14.9 | 21           | -N  |             |                  | 35              | .4               | E       |
| HTPR                      | 17  | 0900          | 0907        | 0930            | N18 | W34 | .598 | 18006 | 14.8 | 30           | -N  | C           | 0907             | 40              | .5               | E       |
| WEND                      | 17  | 0904          | 0908        | 0921            | N17 | W32 | .567 | 18006 | 15.0 | 17           | -N  | C           | 0908             | 31              | .4               |         |
| KANZ                      | 17  | 0906          | 0906        | 0920            | N16 | W33 | .575 | 18006 | 14.9 | 14           | -N  | 3           |                  |                 |                  |         |
| GRP99379                  | 17  | 0939+5        | 0944+3      | 0953            | N17 | W33 | .580 | 18006 | 14.9 | 14           | -F  |             |                  | 60              | .7               | E       |
| HTPR                      | 17  | 0939          | 0945        | 1005            | N18 | W34 | .598 | 18006 | 14.9 | 26           | -N  | C           | 0945             | 80              | 1.0              | E       |
| WEND                      | 17  | 0942          | 0947        | 0951            | N17 | W33 | .580 | 18006 | 14.9 | 9            | -F  | C           | 0947             | 50              | .6               |         |
| MONT                      | 17  | 0942          | 0945        | 0950            | N17 | W32 | .567 | 18006 | 15.0 | 8            | -F  | C           | 0945             | 50              |                  |         |
| KANZ                      | 17  | 0944          | 0944        | 0954            | N17 | W33 | .580 | 18006 | 14.9 | 10           | -F  | 3           |                  |                 |                  |         |
| GRP99380                  | 17  | 1027+5        | 1035        | 1100            | S02 | E22 | .382 | 18017 | 19.1 | 33           | -F  |             |                  |                 |                  |         |
|                           |     |               | 1047+3      |                 |     |     |      |       |      |              |     |             |                  |                 |                  |         |
| HTPR                      | 17  | 1027          | 1035        | 1100            | S02 | E23 | .398 | 18017 | 19.2 | 33           | -F  | C           | 1035             | 40              | .4               |         |
| KANZ                      | 17  | 1032          | 1047        | 1102            | S02 | E22 | .382 | 18017 | 19.1 | 30           | -F  | 3           |                  |                 |                  |         |
| WEND                      | 17  | 1047          | 1050        | 1055            | S02 | E22 | .382 | 18017 | 19.1 | 8            | -F  | C           | 1050             | 38              | .4               |         |
| 381 HTPR                  | 17  | 1136          | 1143        | 1203            | S17 | W18 | .446 | 18023 | 16.1 | 27           | -F  | C           | 1143             | 80              | .8               | E       |
| GRP99382                  | 17  | 1151+4        | 1154+2      | 1201            | N18 | W85 | .995 | 17992 | 11.1 | 10           | -N  |             |                  | 20              |                  |         |
| HTPR                      | 17  | 1151          | 1154        | 1201            | N18 | W88 | .999 | 17992 | 10.9 | 10           | -N  | C           | 1154             | 30              |                  |         |
| KANZ                      | 17  | 1154          | 1154        | 1203            | N17 | W85 | .995 | 17992 | 11.1 | 9            | -N  | 3           |                  |                 |                  |         |
| WEND                      | 17  | 1155          | 1156        | 1201            | N18 | W80 | .984 | 17992 | 11.5 | 6            | -F  | C           | 1156             | 13              |                  |         |
| 383 HTPR                  | 17  | 1315          | 1323        | 1341            | S16 | W18 | .435 | 18023 | 16.2 | 26           | -F  | C           | 1323             | 20              | .2               |         |
| 384 HTPR                  | 17  | 1317          | 1317        | 1323            | S15 | W62 | .897 | 18021 | 12.9 | 6            | -F  | C           | 1317             | 10              | .2               |         |
| 385 HTPR                  | 17  | 1350          | 1358        | 1420            | N18 | W34 | .598 | 18006 | 15.0 | 30           | -F  | C           | 1358             | 40              | .5               | E       |
| GRP99386                  | 17  | 1420+0        | 1423        | 1427            | S14 | W60 | .881 | 18021 | 13.1 | 7            | -F  |             |                  |                 |                  |         |
| WEND                      | 17  | 1420          | 1423        | 1427            | S13 | W61 | .887 | 18021 | 13.0 | 7            | -F  | C           | 1423             | 31              | .7               |         |
| KANZ                      | 17  | 1420          |             | 1425D           | S15 | W60 | .882 | 18021 | 13.1 | 30           | -N  | 2           |                  |                 |                  |         |
| 387 HTPR                  | 17  | 1438          | 1448        | 1500            | S16 | W19 | .446 | 18023 | 16.2 | 22           | -F  | C           | 1448             | 60              | .6               | E       |
| 388 HTPR                  | 17  | 1449          |             | 1526D           | S15 | W63 | .905 | 18021 | 12.9 | 37D          | -F  | C           | 1503             | 30              | .6               |         |
| 389 HTPR                  | 17  | 1507          |             | 1526D           | N01 | E30 | .500 |       | 19.9 | 19D          | -F  | C           | 1519             | 40              | .4               |         |
|                           | 17  | 2051          | 2056        | NO FLARE PATROL |     |     |      |       |      |              |     |             |                  |                 |                  |         |
| 390 CULG                  | 17  | 2153          | 2200        | 2218U           | S18 | W20 | .478 | 18023 | 16.4 | 25D          | -F  | P           | 2200             | 90              | 1.0              |         |

## H - ALPHA SOLAR FLARES

85  
Nov 81

NOVEMBER 1981

| Sta      | Day | Start<br>(UT) | Max<br>(UT) | End<br>(UT) | Lat | CND | Hale        |                 | CMP  | Dur<br>(Min) | Obs<br>Imp | Type | Area Measurement |                 |                  | Remarks |    |
|----------|-----|---------------|-------------|-------------|-----|-----|-------------|-----------------|------|--------------|------------|------|------------------|-----------------|------------------|---------|----|
|          |     |               |             |             |     |     | Cen<br>Dist | Plage<br>Region |      |              |            |      | Time<br>(UT)     | Appar<br>(Disk) | Corr<br>(Sq Deg) |         |    |
| GRP99391 | 17  | 2320+2        | 2322+3      | 2330        | S14 | W67 | .930        | 18021           | 12.9 | 10           | -N         |      |                  |                 | 60               |         | D  |
| CULG     | 17  | 2320          | 2323        | 2325D       | S18 | W67 | .934        | 18021           | 12.9 | 5D           | -F         | P    | 2323             |                 | 40               |         |    |
| LEAR     | 17  | 2321          | 2322        | 2330        | S14 | W65 | .917        | 18021           | 13.1 | 9            | -N         | 3 C  |                  |                 | 58               |         |    |
| HOLL     | 17  | 2321          | 2322        | 2330        | S14 | W67 | .930        | 18021           | 12.9 | 9            | -B         | 2 C  |                  |                 | 74               |         |    |
| VORO     | 17  | 2322          | 2325        | 2330        | S15 | W67 | .931        | 18021           | 12.9 | 8            | 1N         | C    | 2325             |                 | 134              |         | D  |
| 392 LEAR | 17  | 2328          | 2328        | 2341        | N18 | W81 | .987        | 17993           | 11.9 | 13           | -B         | 3 C  |                  |                 |                  |         | E  |
| 393 CULG | 17  | 2355          | 2357U       | 0005U       | S18 | W20 | .478        | 18023           | 16.5 | 10D          | -F         | P    | 2357             |                 | 30               | .3      |    |
| 394 LEAR | 18  | 0036          | 0050        | 0054        | N19 | W82 | .989        | 17993           | 11.9 | 18           | -F         | 3 C  |                  |                 |                  |         |    |
| 395 LEAR | 18  | 0043          | 0043        | 0050        | S18 | W20 | .476        | 18023           | 16.5 | 7            | -N         | 3 C  |                  |                 | 30               |         |    |
| 396 LEAR | 18  | 0057          | 0058        | 0132        | S02 | E14 | .254        | 18017           | 19.1 | 35           | -N         | 3 C  |                  |                 | 77               |         | F  |
| GRP99397 | 18  | 0119+3        | 0124+1      | 0140        | S18 | W21 | .487        | 18023           | 16.5 | 21           | 1N         |      |                  |                 | 200              | 2.3     | J  |
| CULG     | 18  | 0119          | 0124U       | 0133U       | S19 | W20 | .487        | 18023           | 16.6 | 14D          | -N         | P    | 0124             |                 | 50               | .6      |    |
| VORO     | 18  | 0121          | 0125        | 0141        | S18 | W22 | .498        | 18023           | 16.4 | 20           | 1N         | C    | 0125             |                 | 260              | 3.0     | DJ |
| YUNN     | 18  | 0121          | 0125        | 0137        | S18 | W22 | .498        | 18023           | 16.4 | 16           | 1B         | C    |                  |                 | 225              | 2.7     | F  |
| LEAR     | 18  | 0122          | 0124        | 0138        | S18 | W20 | .476        | 18023           | 16.6 | 16           | -B         | 3 C  |                  |                 | 136              |         | FE |
| PURP     | 18  | 0124E         | 0124        | 0141        | S18 | W20 | .476        | 18023           | 16.6 | 17D          | 1N         | P    | 0124             |                 | 238              | 2.8     | E  |
| 398 YUNN | 18  | 0210          | 0212U       | 0212D       | N19 | W48 | .763        | 18006           | 14.5 | 2D           | -N         | P    | 0212             |                 | 32               | .5      | D  |
| GRP99399 | 18  | 0217+0        | 0220+1      | 0226        | S05 | E13 | .259        | 18017           | 19.1 | 9            | -N         |      |                  |                 | 60               | .6      | D  |
| CULG     | 18  | 0217U         | 0220U       | 0226        | S04 | E12 | .236        | 18017           | 19.0 | 9D           | -F         | P    | 0220             |                 | 40               | .4      |    |
| LEAR     | 18  | 0217          | 0221        | 0228        | S05 | E13 | .259        | 18017           | 19.1 | 11           | -F         | 3 C  |                  |                 | 66               |         |    |
| YUNN     | 18  | 0220E         | 0220U       | 0223        | S05 | E13 | .259        | 18017           | 19.1 | 3D           | -B         | P    |                  |                 | 64               | .7      | D  |
| 400 YUNN | 18  | 0227          | 0231        | 0236D       | S15 | W18 | .422        | 18023           | 16.8 | 9D           | -N         | P    |                  |                 | 16               | .2      | E  |
| GRP99401 | 18  | 0227+4        | 0234+2      | 0239        | S16 | W67 | .932        | 18021           | 13.1 | 12           | -N         |      |                  |                 | 25               |         |    |
| YUNN     | 18  | 0227          | 0236U       | 0236D       | S17 | W69 | .944        | 18021           | 12.9 | 9D           | -N         | P    |                  |                 | 16               |         |    |
| LEAR     | 18  | 0231          | 0234        | 0239        | S15 | W65 | .918        | 18021           | 13.2 | 8            | -N         | 3 C  |                  |                 | 26               |         |    |
| GRP99402 | 18  | 0249+3        | 0253+3      | 0307        | S16 | W66 | .926        | 18021           | 13.2 | 18           | -N         |      |                  |                 | 40               |         |    |
| LEAR     | 18  | 0249          | 0253        | 0307        | S17 | W66 | .927        | 18021           | 13.2 | 18           | -N         | 3 C  |                  |                 | 46               |         | F  |
| YUNN     | 18  | 0252          | 0256        | 0307        | S16 | W67 | .932        | 18021           | 13.1 | 15           | -N         | C    |                  |                 | 32               |         | E  |
| GRP99403 | 18  | 0304          | 0307+1      | 0315        | S05 | E07 | .178        | 18017           | 18.7 | 11           | -F         |      |                  |                 | 40               | .4      | E  |
| YUNN     | 18  | 0304          | 0308        | 0315        | S06 | E09 | .214        | 18017           | 18.8 | 11           | -N         | C    |                  |                 | 32               | .3      | E  |
| MANI     | 18  | 0307E         | 0307U       | 0312D       | S05 | E05 | .157        | 18017           | 18.5 | 5D           | -F         | 1 V  |                  |                 | 50               | .5      |    |
| 404 YUNN | 18  | 0327          | 0330        | 0334        | S05 | E11 | .230        | 18017           | 19.0 | 7            | -N         | C    |                  |                 | 16               | .2      | E  |
| GRP99405 | 18  | 0412+1        | 0414+4      | 0447        | S18 | W23 | .509        | 18023           | 16.4 | 35           | 1B         |      |                  |                 | 290              | 3.4     | KU |
| MITK     | 18  | 0412          | 0414        | 0503        | S18 | W22 | .498        | 18023           | 16.5 | 53           | -N         | C    | 0414             |                 |                  |         | E  |
| YUNN     | 18  | 0412          | 0414        | 0440        | S18 | W23 | .509        | 18023           | 16.4 | 2D           | 1B         | P    |                  |                 | 273              | 3.2     | F  |
| LEAR     | 18  | 0413          | 0418        | 0438        | S19 | W24 | .529        | 18023           | 16.4 | 25           | 1B         | 3 C  |                  |                 | 204              |         | FE |
| PURP     | 18  | 0414E         | 0416        | 0452        | S17 | W23 | .499        | 18023           | 16.5 | 38D          | 1B         | P    | 0416             |                 | 409              | 4.9     | U  |
| YUNN     | 18  | 0416E         | 0416        | 0442D       | S18 | W24 | .520        | 18023           | 16.4 | 26D          | 1B         | P    |                  |                 | 385              | 4.6     | FK |
| 406 LEAR | 18  | 0501          | 0502        | 0505        | S06 | E16 | .311        | 18017           | 19.4 | 4            | -F         | 3 C  |                  |                 | 78               |         | FH |
| 407 YUNN | 18  | 0514          | 0519        | 0527        | S15 | W22 | .469        | 18023           | 16.6 | 13           | -N         | C    |                  |                 | 64               | .8      | F  |
| 408 YUNN | 18  | 0600E         | 0600U       | 0604        | S16 | W74 | .968        | 18021           | 12.7 | 4D           | -N         | P    | 0600             |                 | 32               |         |    |
| GRP99409 | 18  | 0600+1        | 0603+1      | 0611        | S05 | E08 | .190        | 18017           | 18.8 | 11           | -N         |      |                  |                 | 35               | .4      | F  |
| YUNN     | 18  | 0600          | 0604U       | 0604D       | S05 | E08 | .190        | 18017           | 18.8 | 4D           | -N         | * P  | 0604             |                 | 16               | .2      | F  |
| LEAR     | 18  | 0601          | 0603        | 0611        | S06 | E08 | .202        | 18017           | 18.9 | 10           | -N         | * C  |                  |                 | 48               |         |    |
| 410 LEAR | 18  | 0615          | 0618        | 0641        | S18 | W69 | .945        | 18021           | 13.1 | 26           | -N         | 3 C  |                  |                 | 32               |         | F  |
| GRP99411 | 18  | 0623          | 0626        | 0632        | N19 | W50 | .783        | 18006           | 14.5 | 9            | -F         |      |                  |                 | 40               | .6      | H  |
| LEAR     | 18  | 0623          | 0626        | 0632        | N19 | W49 | .773        | 18006           | 14.6 | 9            | -F         | 3 C  |                  |                 | 51               |         | H  |
| YUNN     | 18  | 0628E         | 0628U       | 0632        | N19 | W51 | .793        | 18006           | 14.4 | 4D           | -N         | P    | 0628             |                 | 32               | .6      |    |
| 412 LEAR | 18  | 0651          | 0654        | 0700        | S13 | W67 | .929        | 18021           | 13.3 | 9            | -F         | 3 C  |                  |                 | 33               |         |    |

86  
Nov 81

# H - ALPHA SOLAR FLARES

NOVEMBER 1981

| Sta      | Dry | Start<br>(UT) | Max<br>(UT) | End<br>(UT)     | Lat | CMD | Hale        |                 | CMP<br>Day | Dur<br>(Min) | Obs<br>Imp | Type | Area<br>Time<br>(UT) | Measurement     |                  | Remarks |
|----------|-----|---------------|-------------|-----------------|-----|-----|-------------|-----------------|------------|--------------|------------|------|----------------------|-----------------|------------------|---------|
|          |     |               |             |                 |     |     | Can<br>Dist | Plage<br>Region |            |              |            |      |                      | Appar<br>(Disk) | Corr<br>(Sq Deg) |         |
| GRP99413 | 18  | 0723          | 0724+0      | 0737            | S18 | W25 | .531        | 18023           | 16.4       | 14           | -N         |      |                      | 30              | .4               |         |
| LEAR     | 18  | 0723          | 0724        | 0737            | S17 | W25 | .522        | 18023           | 16.4       | 14           | -N         | 3 C  |                      | 35              |                  | F       |
| YUNN     | 18  | 0724E         | 0724U       | 0736            | S18 | W25 | .531        | 18023           | 16.4       | 12D          | -N         | P    | 0724                 | 16              | .2               | D       |
| HTPR     | 18  | 0738E         |             | 0747D           | S22 | W29 | .608        | 18023           | 16.1       | 9D           | -F         | C    | 0741                 | 150             | 1.7              | E       |
| GRP99414 | 18  | 0826          | 0828+1      | 0843            | S16 | W23 | .490        | 18023           | 16.6       | 17           | -N         |      |                      | 100             | 1.1              |         |
| HTPR     | 18  | 0826          | 0828        | 0843            | S17 | W24 | .510        | 18023           | 16.6       | 17           | -B         | C    | 0828                 | 100             | 1.0              | E       |
| MONT     | 18  | 0828E         | 0828        | 0840            | S16 | W23 | .490        | 18023           | 16.6       | 12D          | -N         | C    | 0828                 | 70              |                  |         |
| LEAR     | 18  | 0828E         | 0829U       | 0843            | S15 | W22 | .469        | 18023           | 16.7       | 15D          | -N         | 3 C  |                      | 164             |                  | F       |
| GRP99415 | 18  | 0906+2        | 0908+1      | 0917            | S06 | E05 | .172        | 18017           | 18.8       | 11           | -N         |      |                      | 190             | 1.9              | EH      |
| MONT     | 18  | 0906          | 0908        | 0917            | S06 | E05 | .172        | 18017           | 18.8       | 11           | -N         | C    | 0908                 | 220             |                  | H       |
| LEAR     | 18  | 0907          | 0909        | 0918            | S06 | E05 | .172        | 18017           | 18.8       | 11           | 1N         | 3 C  |                      | 244             |                  |         |
| HTPR     | 18  | 0908          | 0909        | 0917            | S05 | E06 | .167        | 18017           | 18.8       | 9            | -B         | C    | 0909                 | 120             | 1.2              | E       |
| 416 HTPR | 18  | 0910          | 0913        | 0923            | S19 | W24 | .529        | 18023           | 16.6       | 13           | -F         | C    | 0913                 | 30              | .3               | E       |
| GRP99417 | 18  | 0927+0        | 0927+1      | 0933            | S19 | W71 | .956        | 18021           | 13.1       | 6            | -F         |      |                      | 35              |                  |         |
| HTPR     | 18  | 0927          | 0928        | 0931            | S20 | W73 | .966        | 18021           | 12.9       | 4            | -F         | C    | 0928                 | 20              |                  |         |
| LEAR     | 18  | 0927          | 0927        | 0934            | S19 | W69 | .946        | 18021           | 13.2       | 7            | -N         | 3 C  |                      | 49              |                  |         |
| GRP99418 | 18  | 0934+2        | 0938+1      | 1000            | S03 | E10 | .198        | 18017           | 19.1       | 26           | -N         |      |                      | 190             | 1.9              | F       |
| HTPR     | 18  | 0934          | 0912        | 0940            | S03 | E10 | .198        | 18017           | 19.1       | 6            | -B         | C    | 0940                 | 150             | 1.5              |         |
| MONT     | 18  | 0935          | 0939        | 1000D           | S03 | E10 | .198        | 18017           | 19.1       | 25D          | -N         | C    | 0939                 | 220             |                  |         |
| LEAR     | 18  | 0936          | 0938        | 1008            | S03 | E10 | .198        | 18017           | 19.1       | 32           | -N         | 3 C  |                      | 190             |                  | F       |
| GRP99419 | 18  | 1019+4        | 1026+4      | 1045            | S19 | W33 | .628        | 18023           | 16.0       | 26           | -N         |      |                      | 70              | .9               | E       |
| HTPR     | 18  | 1019          | 1028        | 1050            | S20 | W33 | .576        | 18023           | 16.0       | 31           | -B         | C    | 1028                 | 70              | .8               | E       |
| KANZ     | 18  | 1022          | 1030        | 1039D           | S19 | W31 | .606        | 18023           | 16.1       | 17D          | -N         | 3    |                      |                 |                  |         |
| MONT     | 18  | 1023          | 1026        | 1039            | S19 | W33 | .628        | 18023           | 16.0       | 16           | -N         | C    | 1026                 | 70              |                  |         |
| 420 HTPR | 18  | 1135          | 1136        | 1155            | S17 | W29 | .455        | 18023           | 16.3       | 20           | -B         | C    | 1136                 | 30              | .3               |         |
| GRP99421 | 18  | 1226+4        | 1228        | 1247            | S05 | E08 | .190        | 18017           | 19.1       | 21           | -F         |      |                      |                 |                  | E       |
|          |     |               | 1235        |                 |     |     |             |                 |            |              |            |      |                      |                 |                  |         |
| HTPR     | 18  | 1226          | 1228        | 1249            | S05 | E09 | .203        | 18017           | 19.2       | 23           | -N         | C    | 1228                 | 30              | .3               | E       |
| KANZ     | 18  | 1230          | 1235        | 1245            | S05 | E07 | .178        | 18017           | 19.0       | 15           | -F         | 3    |                      |                 |                  |         |
| GRP99422 | 18  | 1258+0        | 1302+1      | 1314            | S05 | E04 | .148        | 18017           | 18.8       | 16           | -N         |      |                      |                 |                  | E       |
| KANZ     | 18  | 1258          | 1303        | 1313            | S06 | E04 | .163        | 18017           | 18.8       | 15           | -N         | 3    |                      |                 |                  |         |
| HTPR     | 18  | 1258          | 1302        | 1315            | S05 | E04 | .148        | 18017           | 18.8       | 17           | -N         | C    | 1302                 | 60              | .6               | E       |
| 423 KANZ | 18  | 1328          | 1333        | 1343            | S17 | W28 | .557        | 18023           | 16.5       | 15           | -F         | 2    |                      |                 |                  |         |
| 424 HTPR | 18  | 1407          | 1414        | 1450            | S17 | W30 | .580        | 18023           | 16.3       | 43           | -N         | C    | 1414                 | 120             | 1.3              | E       |
|          | 18  | 1456          | 1515        | NO FLARE PATROL |     |     |             |                 |            |              |            |      |                      |                 |                  |         |
| GRP99425 | 18  | 1517+9        | 1518        | 1902            | S17 | W31 | .592        | 18023           | 16.3       | 225          | -N         |      |                      |                 |                  | K       |
|          |     |               | 1651        |                 |     |     |             |                 |            |              |            |      |                      |                 |                  |         |
| HOLL     | 18  | 1517          | 1651        | 1853            | S18 | W31 | .599        | 18023           | 16.3       | 216          | 1N         | 2 C  |                      | 197             |                  | K       |
| HOLL     | 18  | 1517          | 1518        | 1853            | S18 | W31 | .599        | 18023           | 16.3       | 216          | -N         | 2 C  |                      | 45              |                  | K       |
| PALE     | 18  | 1830          | 1831        | 1910            | S17 | W32 | .604        | 18023           | 16.4       | 40           | -N         | 3 C  |                      | 69              |                  |         |
|          | 18  | 1534          | 1544        | NO FLARE PATROL |     |     |             |                 |            |              |            |      |                      |                 |                  |         |
|          | 18  | 1559          | 1609        | NO FLARE PATROL |     |     |             |                 |            |              |            |      |                      |                 |                  |         |
|          | 18  | 1632          | 1637        | NO FLARE PATROL |     |     |             |                 |            |              |            |      |                      |                 |                  |         |
|          | 18  | 2203          | 2206        | NO FLARE PATROL |     |     |             |                 |            |              |            |      |                      |                 |                  |         |
| 426 HOLL | 18  | 2245          | 2247        | 2257            | S15 | W76 | .975        | 18021           | 13.2       | 12           | -F         | 3 C  |                      |                 |                  |         |
| GRP99427 | 19  | 0206+0        | 0208+1      | 0221            | S05 | E01 | .130        | 18017           | 19.2       | 15           | -N         |      |                      | 80              | .8               | H       |
| LEAR     | 19  | 0206          | 0209        | 0227            | S06 | E01 | .147        | 18017           | 19.2       | 21           | -N         | 3 C  |                      | 95              |                  | FH      |
| VORO     | 19  | 0206          | 0208        | 0214            | S05 | E02 | .133        | 18017           | 19.2       | 8            | -N         | C    | 0208                 | 63              | .6               | D       |
| GRP99428 | 19  | 0208+0        | 0209        | 0243            | S16 | W36 | .643        | 18023           | 16.4       | 35           | -N         |      |                      |                 |                  |         |
| LEAR     | 19  | 0208          | 0209        | 0243            | S17 | W36 | .649        | 18023           | 16.4       | 35           | -N         | 3 C  |                      | 55              |                  | F       |
| VORO     | 19  | 0208          |             | 0225D           | S16 | W36 | .643        | 18023           | 16.4       | 17D          | -N         | C    | 0218                 | 90              | 1.2              | D       |
| 429 PEKG | 19  | 0251E         | 0252        | 0255D           | S16 | W39 | .678        | 18023           | 16.2       | 4D           | -N         | P    | 0252                 | 126             | 1.8              | EU      |

## H - ALPHA SOLAR FLARES

87  
Nov 81

NOVEMBER 1981

| Sta      | Day       | Start<br>(UT) | Max<br>(UT) | End<br>(UT)     | Lat | CMD  | Hale        |                 | CMP<br>Day | Dur<br>(Min) | Imp | Obs<br>Type | Area<br>Time<br>(UT) | Measurement     |                  | Remarks |
|----------|-----------|---------------|-------------|-----------------|-----|------|-------------|-----------------|------------|--------------|-----|-------------|----------------------|-----------------|------------------|---------|
|          |           |               |             |                 |     |      | Con<br>Dist | Plage<br>Region |            |              |     |             |                      | Appar<br>(Disk) | Corr<br>(Sq Deg) |         |
| 430      | LEAR      | 19 0628       | 0630        | 0636            | N18 | W63  | .896        | 18006           | 14.5       | 8            | -F  | 3 C         |                      | 34              |                  | H       |
| 431      | LEAR      | 19 0756       | 0759        | 0809            | S16 | W40  | .690        | 18023           | 16.3       | 13           | -N  | 3 C         |                      | 21              |                  | F       |
| GRP99432 | 19 0914+0 | 0919          | 0932        | N11             | W82 | .990 | 18012       | 13.2            | 18         | -F           |     |             |                      |                 |                  |         |
|          | HTPR      | 19 0914E      |             | 0921D           | N12 | W85  | .996        | 18012           | 13.0       | 7D           | -N  | C           | 0919                 | 40              |                  |         |
|          | LEAR      | 19 0914       | 0919        | 0932            | N11 | W79  | .981        | 18012           | 13.5       | 18           | -F  | 3 C         |                      |                 |                  |         |
| 433      | MONT      | 19 1048       | 1051        | 1057            | N11 | W86  | .997        | 18012           | 13.0       | 9            | -F  | C           | 1051                 | 50              |                  | D       |
|          |           | 19 1246       | 1459        | NO FLARE PATROL |     |      |             |                 |            |              |     |             |                      |                 |                  |         |
|          |           | 19 1509       | 1516        | NO FLARE PATROL |     |      |             |                 |            |              |     |             |                      |                 |                  |         |
|          |           | 19 1531       | 1535        | NO FLARE PATROL |     |      |             |                 |            |              |     |             |                      |                 |                  |         |
| 434      | HOLL      | 19 1633       | 1633        | 1639            | S05 | W07  | .177        | 18017           | 19.2       | 6            | -F  | 3 C         |                      | 40              |                  |         |
| 435      | HOLL      | 19 1640       | 1640        | 1645            | S17 | W44  | .738        | 18023           | 16.4       | 5            | -N  | 3 C         |                      | 19              |                  | F       |
| 436      | HOLL      | 19 1640       | 1641        | 1643            | N10 | W82  | .990        | 18012           | 13.5       | 3            | -F  | 3 C         |                      |                 |                  |         |
|          |           | 19 1746       | 1751        | NO FLARE PATROL |     |      |             |                 |            |              |     |             |                      |                 |                  |         |
| 437      | HOLL      | 19 2005       | 2016        | 2026            | S02 | W10  | .189        | 18017           | 19.1       | 21           | -F  | 3 C         |                      | 57              |                  |         |
| 438      | HOLL      | 19 2020       | 2022        | 2026            | S17 | W47  | .769        | 18023           | 16.3       | 6            | -N  | 3 C         |                      | 17              |                  |         |
|          |           | 19 2138       | 2209        | NO FLARE PATROL |     |      |             |                 |            |              |     |             |                      |                 |                  |         |
|          |           | 19 2235       | 2243        | NO FLARE PATROL |     |      |             |                 |            |              |     |             |                      |                 |                  |         |
| 439      | LEAR      | 19 2333       | 2335        | 0006            | S17 | W50  | .799        | 18023           | 16.2       | 33           | -F  | 3 C         |                      | 34              |                  | F       |
| 440      | PEKG      | 20 0019E      | 0020        | 0020D           | S16 | W51  | .805        | 18023           | 16.2       | 1D           | IN  | P           | 0020                 | 126             | 2.2              | E       |
| 441      | LEAR      | 20 0143       | 0144        | 0151            | N14 | E10  | .264        | 18027           | 20.8       | 8            | -F  | 3 C         |                      | 75              |                  | F       |
| 442      | PEKG      | 20 0344       | 0350        | 0355            | S05 | W19  | .347        | 18017           | 18.7       | 11           | -F  | C           | 0350                 | 34              | .4               | D       |
| 443      | PEKG      | 20 0452E      | 0452        | 0459            | S15 | W54  | .831        | 18023           | 16.2       | 7D           | -N  | P           | 0452                 | 97              | 1.8              | EU      |
| GRP99444 | 20 0910+1 | 0911+4        | 0923        | S19             | W49 | .795 | 18023       | 16.7            | 13         | -F           |     |             |                      |                 |                  |         |
|          | CATA      | 20 0910       | 0915        | 0925            | S19 | W50  | .804        | 18023           | 16.6       | 15           | -   | 2 C         | 0915                 | 45              | .8               |         |
|          | KANZ      | 20 0911       | 0911        | 0920            | S20 | W49  | .798        | 18023           | 16.7       | 9            | -F  | 2           |                      |                 |                  |         |
| 445      | HTPR      | 20 1024       | 1039        | 1050            | S08 | W20  | .382        | 18017           | 18.9       | 26           | -F  | C           | 1039                 | 20              | .2               |         |
| GRP99446 | 20 1042+2 | 1044+0        | 1052        | N15             | W82 | .969 | 18006       | 14.3            | 10         | -N           |     |             |                      |                 |                  |         |
|          | HTPR      | 20 1042       | 1044        | 1051            | N15 | W86  | .997        | 18006           | 14.0       | 9            | -N  | C           | 1044                 | 50              |                  |         |
|          | KANZ      | 20 1044       | 1044        | 1053            | N16 | W78  | .978        | 18006           | 14.6       | 9            | -K  | 3           |                      |                 |                  |         |
| 447      | HTPR      | 20 1044       | 1046        | 1053            | S20 | W52  | .825        | 18023           | 16.5       | 9            | -N  | C           | 1046                 | 50              | .8               |         |
|          |           | 20 1419       | 1428        | NO FLARE PATROL |     |      |             |                 |            |              |     |             |                      |                 |                  |         |
| 448      | HOLL      | 20 1526       | 1530        | 1542            | S20 | W53  | .834        | 18023           | 16.7       | 16           | -B  | 3 C         |                      | 61              |                  | H       |
| 449      | HOLL      | 20 1531       | 1533        | 1542            | N14 | E01  | .204        | 18027           | 20.7       | 11           | -N  | 3 C         |                      | 30              |                  | F       |
| 450      | HOLL      | 20 1759       | 1802        | 1815            | N14 | E00  | .203        | 18027           | 20.7       | 16           | -N  | 3 C         |                      | 90              |                  | F       |
| 451      | HOLL      | 20 1859       | 1904        | 1920            | N15 | W01  | .221        | 18027           | 20.7       | 21           | -F  | 3 C         |                      | 21              |                  | F       |
| 452      | CULG      | 20 2037       | 2041        | 2052            | N15 | W02  | .223        | 18027           | 20.7       | 15           | -N  | C           | 2041                 | 40              | .4               | J       |
| GRP99453 | 20 2220+9 | 2229          | 2305        | S20             | W60 | .890 | 18023       | 16.4            | 45         | -F           |     |             |                      | 40              | .9               | HJ      |
|          |           | 2246+2        |             |                 |     |      |             |                 |            |              |     |             |                      |                 |                  |         |
|          | CULG      | 20 2220       | 2223        | 2228            | S17 | W56  | .926        | 18023           | 16.0       | 8            | -F  | C           | 2223                 | 20              |                  |         |
|          | CULG      | 20 2226       | 2229        | 2245            | S19 | W63  | .909        | 18023           | 16.2       | 19           | -F  | C           | 2229                 | 50              | 1.2              | J       |
|          | CULG      | 20 2243       | 2248        | 2302            | S22 | W59  | .887        | 18023           | 16.5       | 19           | -F  | C           | 2248                 | 40              | .8               |         |
|          | LEAR      | 20 2246       | 2246        | 2307            | S20 | W57  | .867        | 18023           | 16.7       | 21           | -F  | 3 C         |                      | 40              |                  | H       |



## H - ALPHA SOLAR FLARES

NOVEMBER 1981

| Sta      | Day | Start<br>(UT) | Max<br>(UT)    | End<br>(UT) | Lat | CMD | Hale        |                 | CMP<br>Day | Dur<br>(Min) | Imp | Obs<br>Type | Area Measurement |                 |                  | Remarks |
|----------|-----|---------------|----------------|-------------|-----|-----|-------------|-----------------|------------|--------------|-----|-------------|------------------|-----------------|------------------|---------|
|          |     |               |                |             |     |     | Con<br>Dist | Plage<br>Region |            |              |     |             | Time<br>(UT)     | Appar<br>(Disk) | Corr<br>(Sq Deg) |         |
| GRP99454 | 20  | 2333+9        | 2335<br>2349   | 0006        | S18 | W63 | .908        | 18023           | 16.3       | 33           | -F  |             |                  |                 |                  | FJ      |
| LEAR     | 20  | 2333          | 2335           | 0006        | S17 | W60 | .798        | 18023           | 16.5       | 33           | -F  | 3 C         |                  | 34              |                  | F       |
| PALE     | 20  | 2349          | 2349           | 2355        | S18 | W63 | .908        | 18023           | 16.3       | 6            | -F  | 3 C         |                  | 17              |                  |         |
| CULG     | 20  | 2353          | 2358           | 0015        | S19 | W63 | .909        | 18023           | 16.3       | 22           | -N  | C           | 2358             | 40              | 1.0              | JT      |
| 455 LEAR | 21  | 0220          | 0222           | 0236        | S04 | W27 | .464        | 18017           | 19.1       | 16           | -F  | 3 C         |                  | 33              |                  | F       |
| GRP99456 | 21  | 0344+4        | 0350+0         | 0359        | N10 | W06 | .171        | 18027           | 20.7       | 15           | -N  |             |                  | 70              | .7               |         |
| CULG     | 21  | 0344          | 0350           | 0401        | N11 | W07 | .195        | 18027           | 20.6       | 17           | -B  | C           | 0350             | 70              | .7               |         |
| LEAR     | 21  | 0348          | 0350           | 0356        | N10 | W05 | .161        | 18027           | 20.8       | 8            | -N  | 3 C         |                  | 77              |                  |         |
| 457 CULG | 21  | 0443          | 0449           | 0500        | N12 | W07 | .209        | 18027           | 20.7       | 17           | -N  | P           | 0449             | 30              | .3               |         |
| 458 CULG | 21  | 0447          | 0450           | 0510        | S16 | W39 | .677        |                 | 18.3       | 23           | -F  | C           | 0450             | 50              | .7               | C       |
| 459 CULG | 21  | 0521          | 0529U          | 0537        | N11 | W09 | .218        | 18027           | 20.5       | 16           | -F  | P           | 0529             | 60              | .6               |         |
| 460 CULG | 21  | 0556E         | 0557U          | 0605        | N12 | W08 | .219        | 18027           | 20.6       | 90           | -F  | P           | 0557             | 30              | .3               |         |
| 461 CULG | 21  | 0620          | 0622           | 0631        | S16 | W68 | .937        | 18023           | 16.2       | 11           | -N  | C           | 0622             | 40              |                  |         |
| 462 CULG | 21  | 0725          | 0728           | 0732D       | S08 | W31 | .538        | 18017           | 19.0       | 70           | -F  | P           | 0728             | 30              | .4               |         |
| GRP99463 | 21  | 0730+2        | 0731+2         | 0736        | S16 | W72 | .958        | 18023           | 15.9       | 6            | -F  |             |                  | 25              |                  |         |
| HPR      | 21  | 0730          | 0731           | 0733        | S17 | W76 | .975        | 18023           | 15.6       | 3            | -F  | C           | 0731             | 30              |                  |         |
| LEAR     | 21  | 0732          | 0733           | 0738        | S15 | W69 | .942        | 18023           | 16.1       | 6            | -F  | 3 C         |                  | 21              |                  |         |
| 464 HPR  | 21  | 0923          | 0933           | 0936        | S04 | W34 | .567        | 18017           | 18.8       | 13           | -F  | C           | 0933             | 20              | .2               |         |
| GRP99465 | 21  | 0949+7        | 0957+0         | 1004        | S04 | W32 | .538        | 18017           | 19.0       | 15           | -F  |             |                  | 35              | .4               |         |
| HPR      | 21  | 0949          | 0957           | 1006        | S04 | W34 | .567        | 18017           | 18.9       | 17           | -F  | C           | 0957             | 40              | .5               | E       |
| LEAR     | 21  | 0956          | 0957           | 1002        | S05 | W30 | .512        | 18017           | 19.2       | 6            | -F  | 3 C         |                  | 32              |                  | F       |
| 466 HPR  | 21  | 1011          | 1017           | 1023        | N10 | W12 | .247        | 18027           | 20.5       | 12           | -N  | C           | 1017             | 40              | .4               | E       |
| 467 HPR  | 21  | 1054          | 1055           | 1059        | S21 | W72 | .961        | 18023           | 16.1       | 5            | -N  | C           | 1055             | 30              |                  |         |
| 468 HPR  | 21  | 1107          | 1113           | 1116        | S21 | W72 | .961        | 18023           | 16.1       | 9            | -F  | C           | 1113             | 20              |                  |         |
| GRP99469 | 21  | 1245          | 1253<br>1258+5 | 1330        | S04 | W34 | .567        | 18017           | 19.0       | 45           | -F  |             |                  |                 |                  | EL      |
| HPR      | 21  | 1245          | 1253           | 1330        | S05 | W36 | .597        | 18017           | 18.8       | 45           | -F  | C           | 1253             | 60              | .7               | E       |
| RAMY     | 21  | 1254E         | 1303           | 1329        | S02 | W34 | .563        | 18017           | 19.0       | 350          | -F  | 3 C         |                  | 65              |                  |         |
| KANZ     | 21  | 1258E         | 1258           | 1330        | S04 | W32 | .538        | 18017           | 19.1       | 320          | -F  | 1           |                  |                 |                  | L       |
| GRP99470 | 21  | 1333+1        | 1334+1         | 1339        | S20 | W67 | .935        | 18023           | 16.5       | 6            | -F  |             |                  |                 |                  |         |
| RAMY     | 21  | 1333          | 1335           | 1340        | S20 | W66 | .929        | 18023           | 16.6       | 7            | -F  | 3 C         |                  | 28              |                  |         |
| KANZ     | 21  | 1334          | 1334           | 1338        | S21 | W68 | .942        | 18023           | 16.5       | 4            | -F  | 1           |                  |                 |                  |         |
| 471 HPR  | 21  | 1409          | 1415           | 1430        | S21 | W73 | .966        | 18023           | 16.1       | 21           | -F  | C           | 1415             | 40              |                  |         |
| GRP99472 | 21  | 1554+2        | 1558+2         | 1612        | N11 | W13 | .270        | 18027           | 20.7       | 18           | -B  |             |                  | 90              | .9               | H       |
| RAMY     | 21  | 1554          | 1558           | 1612        | N12 | W13 | .279        | 18027           | 20.7       | 18           | -B  | 3 C         |                  | 89              |                  |         |
| HOLL     | 21  | 1556          | 1600           | 1612        | N11 | W13 | .270        | 18027           | 20.7       | 16           | -B  | 3 C         |                  | 100             |                  | H       |
| 473 HOLL | 21  | 1651          | 1652           | 1657        | S21 | W68 | .942        | 18023           | 16.6       | 6            | -N  | 3 C         |                  | 17              |                  |         |
| 474 HOLL | 21  | 1710          | 1713           | 1725        | S20 | W73 | .965        | 18023           | 16.2       | 15           | -F  | 3 C         |                  |                 |                  |         |
| GRP99475 | 21  | 1957+3        | 2002+4         | 2022        | N11 | 00  | .154        | 18025           | 21.8       | 25           | -F  |             |                  |                 |                  | G       |
| CULG     | 21  | 1957          | 2006           | 2025        | N11 | W01 | .155        | 18025           | 21.8       | 28           | -F  | C           | 2006             | 80              | .8               | G       |
| HOLL     | 21  | 2000          | 2002           | 2018        | N11 | E00 | .154        | 18025           | 21.8       | 18           | -N  | 3 C         |                  | 33              |                  |         |
| 476 HOLL | 21  | 2014          | 2014           | 2018        | S19 | W73 | .965        | 18023           | 16.4       | 4            | -F  | 3 C         |                  |                 |                  |         |
| GRP99477 | 21  | 2239+5        | 2246+3         | 2257        | S19 | W70 | .950        | 18023           | 16.7       | 18           | -F  |             |                  | 25              |                  | F       |
| CULG     | 21  | 2239          | 2246           | 2256        | S21 | W71 | .957        | 18023           | 16.6       | 17           | -F  | C           | 2246             | 30              |                  |         |
| LEAR     | 21  | 2244          | 2249           | 2258        | S18 | W70 | .950        | 18023           | 16.7       | 14           | -N  | 3 C         |                  | 20              |                  | F       |

## H - ALPHA SOLAR FLARES

89  
Nov 81

NOVEMBER 1981

| Sta      | Day | Start<br>(UT) | Max<br>(UT) | End<br>(UT) | Lat  | CMD  | Can<br>Dist | Hale<br>Plage<br>Region | CMP<br>Day | Dur<br>(Min) | Obs<br>Imp | Type | Area<br>Time<br>(UT) | Measurement<br>Appar<br>(Disk) | Corr<br>(Sq Deg) | Remarks |   |
|----------|-----|---------------|-------------|-------------|------|------|-------------|-------------------------|------------|--------------|------------|------|----------------------|--------------------------------|------------------|---------|---|
| GRP99478 | 21  | 2357          | 0008        | 0034        | N12  | E55  | .823        | 18033                   | 26.1       | 37           | 2F         |      |                      |                                |                  |         |   |
|          |     |               | 2412        |             |      |      |             |                         |            |              |            |      |                      |                                |                  |         |   |
| CULG     | 22  | 0000          | 0008        | 0033        | N12  | E54  | .813        | 18033                   | 26.0       | 33           | 2F         | C    | 0008                 | 120                            | 2.2              |         |   |
|          |     |               | IMP.1       | NO : LEAR   | MITK | VORO |             |                         |            |              |            |      |                      |                                |                  |         |   |
| CULG     | 21  | 2357          | 2412        | 0034        | N13  | E56  | .833        | 18033                   | 26.2       | 37           | 1F         | C    | 2412                 | 160                            | 2.9              |         |   |
| 479 LEAR | 22  | 0048          | 0049        | 0053        | N10  | E80  | .984        | 18035                   | 28.0       | 5            | -F         | 3    | C                    |                                |                  |         |   |
| GRP99480 | 22  | 0102+2        | 0107+1      | 0117        | S03  | W42  | .673        | 18017                   | 18.9       | 15           | -F         |      |                      | 50                             | .7               | F       |   |
| CULG     | 22  | 0102          | 0107        | 0119        | S04  | W43  | .687        | 18017                   | 18.8       | 17           | -F         | C    | 0106                 | 50                             | .7               |         |   |
| LEAR     | 22  | 0104          | 0108        | 0115        | S03  | W41  | .660        | 18017                   | 19.0       | 11           | -F         | 3    | C                    | 45                             |                  | F       |   |
| GRP99481 | 22  | 0238+4        | 0244+2      | 0308        | N10  | W19  | .350        | 18027                   | 20.7       | 30           | -N         |      |                      | 110                            | 1.2              | F       |   |
| CULG     | 22  | 0238          | 0244        | 0315        | N10  | W20  | .365        | 18027                   | 20.6       | 37           | -N         | C    | 0244                 | 130                            | 1.4              |         |   |
| LEAR     | 22  | 0242          | 0246        | 0300        | N11  | W18  | .342        | 18027                   | 20.8       | 18           | -N         | 3    | C                    | 85                             |                  | F       |   |
| GRP99482 | 22  | 0320+2        | 0323+1      | 0339        | S20  | W74  | .969        | 18023                   | 16.6       | 19           | 1B         |      |                      |                                |                  |         |   |
| CULG     | 22  | 0320          | 0323        | 0340        | S21  | W76  | .977        | 18023                   | 16.4       | 20           | 1B         | C    | 0323                 | 100                            |                  |         |   |
| LEAR     | 22  | 0322          | 0324        | 0338        | S20  | W72  | .961        | 18023                   | 16.7       | 16           | 1B         | 3    | C                    |                                |                  | FE      |   |
| GRP99483 | 22  | 0408+6        | 0416+0      | 0424        | S19  | W75  | .972        | 18023                   | 16.5       | 16           | -F         |      |                      |                                |                  | J       |   |
| CULG     | 22  | 0408          | 0416        | 0425        | S19  | W76  | .976        | 18023                   | 16.5       | 17           | -F         | C    | 0416                 | 30                             |                  | J       |   |
| LEAR     | 22  | 0414          | 0416        | 0423        | S19  | W74  | .969        | 18023                   | 16.6       | 9            | -N         | 3    | C                    |                                |                  |         |   |
| 484 LEAR | 22  | 0425          | 0426        | 0430        | S19  | W73  | .964        | 18023                   | 16.7       | 5            | -F         | 3    | C                    |                                |                  |         |   |
| 485 CULG | 22  | 0448          | 0451        | 0456        | S19  | W77  | .980        | 18023                   | 16.4       | 8            | -F         | C    | 0451                 | 40                             |                  | J       |   |
| 486 CULG | 22  | 0510          | 0530        | 0600        | N12  | W23  | .421        | 18027                   | 20.5       | 50           | -N         | C    | 0530                 | 100                            | 1.1              |         |   |
| 487 CULG | 22  | 0632          | 0638        | 0650        | N12  | E77  | .974        | 18035                   | 28.0       | 18           | 2N         | C    | 0638                 | 180                            |                  |         |   |
|          |     |               | IMP.1       | NO : LEAR   | MITK |      |             |                         |            |              |            |      |                      |                                |                  |         |   |
| GRP99488 | 22  | 0653+2        | 0658+7      | 0812        | N13  | W21  | .399        | 18027                   | 20.7       | 79           | 1B         |      |                      |                                |                  | FIKU    |   |
|          |     |               | 0732+2      |             |      |      |             |                         |            |              |            |      |                      |                                |                  |         |   |
| CULG     | 22  | 0653          | 0658        | 0819D       | N12  | W23  | .421        | 18027                   | 20.6       | 86D          | 2B         | P    | 0658                 | 550                            | 6.1              | VIK     |   |
| LEAR     | 22  | 0655          | 0658        | 0803D       | N12  | W22  | .406        | 18027                   | 20.6       | 68D          | 1B         | 3    | C                    | 492                            |                  | ZF      |   |
| ATHN     | 22  | 0656E         | 0658        | 0730        | N13  | W19  | .371        | 18027                   | 20.9       | 34D          | -B         | 3    | V                    | 0658                           | 127              | 1.4     |   |
| CATA     | 22  | 0700E         | 0705        | 0815D       | N14  | W23  | .433        | 18027                   | 20.6       | 75D          | -          | 2    | P                    | 0705                           | 34               | .4      |   |
| MANI     | 22  | 0703E         | 0703U       | 0705D       | N12  | W21  | .392        | 18027                   | 20.7       | 2D           | 1N         | 1    | V                    | 250                            | 2.8              | FZ      |   |
| YUNN     | 22  | 0705E         | 0713        | 0714D       | N12  | W23  | .421        | 18027                   | 20.6       | 9D           | 2B         | P    |                      | 546                            | 6.2              | FW      |   |
| ATHN     | 22  | 0730          | 0732        | 0755        | N13  | W19  | .371        | 18027                   | 20.9       | 25           | 1B         | 3    | V                    | 0732                           | 223              | 2.4     |   |
| CATA     | 22  | 0730          | 0750        | 0815D       | N15  | W16  | .349        | 18027                   | 21.1       | 45D          | -          | 2    | P                    | 0750                           | 169              | 1.8     |   |
| YUNN     | 22  | 0732E         | 0734        | 0746D       | N13  | W21  | .399        | 18027                   | 20.7       | 14D          | 2F         | P    |                      | 514                            | 5.8              | BE      |   |
| HTRP     | 22  | 0758E         |             | 0910        | N14  | W22  | .420        | 18027                   | 20.7       | 72D          | 2N         | C    | 0802                 | 500                            | 5.5              | EIU     |   |
| GRP99489 | 22  | 0702+2        | 0706+0      | 0712        | N07  | E75  | .965        | 18035                   | 27.9       | 10           | -F         |      |                      |                                |                  |         |   |
| CULG     | 22  | 0702          | 0706        | 0712        | N09  | E75  | .965        | 18035                   | 27.9       | 10           | -F         | C    | 0706                 | 30                             |                  |         |   |
| LEAR     | 22  | 0704          | 0706        | 0712        | N06  | E75  | .965        | 18035                   | 27.9       | 8            | -F         | 3    | C                    |                                |                  |         |   |
| 490 CULG | 22  | 0740          | 0743        | 0756        | S08  | W41  | .670        | 18017                   | 19.2       | 16           | -F         | C    | 0743                 | 30                             | .4               |         |   |
| 491 CATA | 22  | 0845          | 0845        | 0850        | S04  | W46  | .724        | 18017                   | 18.9       | 5            | -          | 2    | C                    | 0845                           | 112              | 1.7     |   |
| GRP99492 | 22  | 0937+9        | 1004+1      | 1124        | S05  | W42  | .676        | 18017                   | 19.3       | 107          | 1N         |      |                      | 190                            | 2.6              | IU      |   |
|          |     |               | 1010+9      |             |      |      |             |                         |            |              |            |      |                      |                                |                  |         |   |
| HTRP     | 22  | 0937          | 1015        | 1230        | S05  | W45  | .713        | 18017                   | 19.0       | 173          | 1F         | C    | 1015                 | 150                            | 2.4              | EIU     |   |
| CATA     | 22  | 0940          | 1005        | 1125D       | S04  | W46  | .724        | 18017                   | 19.0       | 105D         | 1          | 2    | P                    | 1005                           | 253              | 3.8     |   |
| LEAR     | 22  | 0947          | 1010        | 1012D       | S05  | W38  | .624        | 18017                   | 19.6       | 25D          | 1F         | 2    | C                    |                                | 228              |         | F |
| CATA     | 22  | 0955          | 1020        | 1125D       | S07  | W37  | .616        | 18017                   | 19.6       | 90D          | 1          | 2    | P                    | 1020                           | 197              | 2.6     |   |
| KHAR     | 22  | 0956          | 1016        | 1036        | S06  | W44  | .703        | 18017                   | 19.1       | 40           | 1N         | P    | 1026                 | 350                            | 4.9              | E       |   |
| ATHN     | 22  | 1000E         | 1004        | 1043        | S04  | W39  | .635        | 18017                   | 19.5       | 43D          | 1N         | 3    | V                    | 1004                           | 143              | 2.2     |   |
| RAMY     | 22  | 1123E         | 1125U       | 1205        | S05  | W46  | .725        | 18017                   | 19.0       | 42D          | -F         | 3    | C                    | 195                            |                  |         | F |
| 493 RAMY | 22  | 1205          | 1208        | 1221        | S19  | W77  | .980        | 18023                   | 16.7       | 16           | -F         | 3    | C                    |                                |                  |         |   |
| GRP99494 | 22  | 1216+0        | 1219+1      | 1231        | N10  | W24  | .425        | 18027                   | 20.7       | 15           | -N         |      |                      | 35                             | .4               |         |   |
| RAMY     | 22  | 1216          | 1220        | 1229        | N10  | W23  | .410        | 18027                   | 20.8       | 13           | -N         | 3    | C                    | 42                             |                  |         |   |
| HTRP     | 22  | 1216          | 1219        | 1232        | N10  | W25  | .440        | 18027                   | 20.6       | 16           | -N         | C    | 1219                 | 30                             | .3               |         |   |

90  
Nov 81

# H - ALPHA SOLAR FLARES

NOVEMBER 1981

| Sta      | Day | Start<br>(UT) | Max<br>(UT) | End<br>(UT)     | Lat | CND | Hale        |                 | Dur<br>(Min) | Obs<br>Imp | Type | Area<br>Time<br>(UT) | Measurement<br>Appar<br>(Disk) | Corr<br>(Sq Deg) | Remarks |     |
|----------|-----|---------------|-------------|-----------------|-----|-----|-------------|-----------------|--------------|------------|------|----------------------|--------------------------------|------------------|---------|-----|
|          |     |               |             |                 |     |     | Can<br>Dist | Plage<br>Region |              |            |      |                      |                                |                  |         |     |
| GRP99495 | 22  | 1318+7        | 1322+4      | 1330            | N12 | W24 | .435        | 18027           | 20.8         | 12         | -F   |                      |                                |                  |         |     |
| KANZ     | 22  | 1318          | 1322        | 1329            | N13 | W24 | .441        | 18027           | 20.8         | 11         | -F   | 1                    |                                |                  |         |     |
| HTPR     | 22  | 1325          | 1326        | 1331            | N12 | W25 | .449        | 18027           | 20.7         | 6          | -F   | C                    | 1326                           | 50               | .5      |     |
| 496 HTPR | 22  | 1459          | 1501        | 1505            | N14 | W26 | .475        | 18027           | 20.7         | 6          | -N   | C                    | 1501                           | 30               | .3      |     |
| GRP99497 | 22  | 1537+1        | 1538+1      | 1555            | N11 | W26 | .459        | 18027           | 20.7         | 18         | -N   |                      |                                | 100              | 1.1     | E   |
| HOLL     | 22  | 1537          | 1538        | 1559            | N11 | W26 | .459        | 18027           | 20.7         | 22         | -B   | 3                    | C                              | 110              |         | E   |
| RAMY     | 22  | 1538          | 1539        | 1550            | N11 | W26 | .459        | 18027           | 20.7         | 12         | -N   | 3                    | C                              | 94               |         |     |
| GRP99498 | 22  | 1847+0        | 1851+1      | 1856            | N11 | W27 | .473        | 18027           | 20.8         | 9          | -F   |                      |                                | 35               | .4      | F   |
| RAMY     | 22  | 1847          | 1851        | 1855            | N11 | W27 | .473        | 18027           | 20.8         | 8          | -F   | 3                    | C                              | 30               |         |     |
| HOLL     | 22  | 1847          | 1852        | 1856            | N11 | W27 | .473        | 18027           | 20.8         | 9          | -F   | 3                    | C                              | 37               |         | F   |
| GRP99499 | 22  | 2050+3        | 2055+2      | 2106            | S06 | W52 | .794        | 18017           | 19.0         | 16         | -F   |                      |                                | 60               | 1.0     |     |
| CULG     | 22  | 2050          | 2055        | 2106            | S06 | W52 | .794        | 18017           | 19.0         | 16         | -F   | C                    | 2055                           | 80               | 1.3     |     |
| HOLL     | 22  | 2053          | 2057        | 2105            | S06 | W52 | .794        | 18017           | 19.0         | 12         | -N   | 3                    | C                              | 38               |         |     |
| 500 CULG | 22  | 2157          | 2203        | 2220            | S05 | W52 | .793        | 18017           | 19.0         | 23         | -F   | C                    | 2203                           | 60               | 1.0     |     |
| GRP99501 | 22  | 2236+0        | 2237+1      | 2246            | S21 | W85 | .998        | 18023           | 16.6         | 10         | -F   |                      |                                |                  |         |     |
| HOLL     | 22  | 2236          | 2237        | 2245            | S20 | W84 | .996        | 18023           | 16.6         | 9          | -N   | 3                    | C                              |                  |         |     |
| CULG     | 22  | 2236          | 2238        | 2246            | S22 | W86 | .999        | 18023           | 16.5         | 10         | -F   | C                    | 2238                           | 40               |         |     |
| 502 CULG | 23  | 0027          | 0033        | 0042            | S06 | W63 | .894        | 18017           | 18.3         | 15         | -F   | C                    | 0033                           | 60               | 1.3     |     |
| GRP99503 | 23  | 0101+3        | 0104        | 0110            | S19 | W86 | .998        | 18023           | 16.6         | 9          | -F   |                      |                                |                  |         | AK  |
| PEKG     | 23  | 0101          | 0104        | 0110            | S18 | W90 | 1.000       | 18023           | 16.3         | 9          | -N   | C                    | 0104                           | 34               |         | ADK |
| PEKG     | 23  | 0101          | 0109        | 0110            | S18 | W90 | 1.000       | 18023           | 16.3         | 9          | -N   | C                    |                                |                  |         |     |
| LEAR     | 23  | 0104          | 0108        | 0109            | S21 | W82 | .993        | 18023           | 16.9         | 5          | -F   | 3                    | C                              |                  |         |     |
| 504 PEKG | 23  | 0244          | 0245        | 0248            | S19 | W90 | 1.000       | 18023           | 16.4         | 4          | -N   | C                    | 0245                           | 38               |         | AD  |
| GRP99505 | 23  | 0626          | 0626        | 0642            | N10 | W34 | .570        | 18027           | 20.7         | 16         | -N   |                      |                                |                  |         |     |
| LEAR     | 23  | 0626          | 0626        | 0642            | N11 | W34 | .573        | 18027           | 20.7         | 16         | -N   | 3                    | C                              | 103              |         |     |
| CULG     | 23  | 0633E         | 0633U       | 0641D           | N10 | W35 | .584        | 18027           | 20.6         | 8D         | -F   | P                    | 0633                           | 50               | .6      |     |
| GRP99506 | 23  | 0944+4        | 0949+1      | 1005            | N11 | W36 | .600        | 18027           | 20.7         | 21         | -N   |                      |                                | 50               | .6      |     |
| KANZ     | 23  | 0944          | 0950        | 1007            | N10 | W37 | .611        | 18027           | 20.6         | 23         | -B   | 2                    |                                |                  |         |     |
| WEND     | 23  | 0945          | 0950        | 1004            | N12 | W33 | .562        | 18027           | 20.9         | 19         | -N   | C                    | 0950                           | 31               | .4      |     |
| MONT     | 23  | 0946          | 0949        | 1006            | N11 | W37 | .613        | 18027           | 20.6         | 20         | -B   | C                    | 0949                           | 50               |         |     |
| LEAR     | 23  | 0948          | 0950        | 1001            | N11 | W35 | .586        | 18027           | 20.8         | 13         | -N   | 3                    | C                              | 91               |         |     |
| GRP99507 | 23  | 1145+5        | 1156+4      | 1228            | N07 | E57 | .839        | 18035           | 27.8         | 43         | 1B   |                      |                                | 170              | 3.1     | E   |
| KANZ     | 23  | 1145          | 1156        | 1230            | N07 | E51 | .778        | 18035           | 27.3         | 45         | 1B   | 3                    |                                |                  |         | E   |
| RAMY     | 23  | 1148          | 1156        | 1238            | N07 | E57 | .839        | 18035           | 27.8         | 50         | 1B   | 3                    | C                              | 219              |         | FE  |
| CATA     | 23  | 1150          | 1200        | 1225            | N08 | E57 | .839        | 18035           | 27.8         | 35         | 1    | 2                    | C                              | 1200             | 169     | 3.2 |
| ATHN     | 23  | 1155E         | 1158        | 1225            | N07 | E57 | .839        | 18035           | 27.8         | 30D        | 1B   | 4                    | V                              | 1158             | 127     | 2.4 |
| GRP99508 | 23  | 1309+0        | 1317+5      | 1358            | N13 | W37 | .619        | 18027           | 20.8         | 49         | -N   |                      |                                | 70               | .9      |     |
| KANZ     | 23  | 1309          | 1319        | 1358            | N13 | W38 | .632        | 18027           | 20.7         | 49         | -N   | 3                    |                                |                  |         |     |
| RAMY     | 23  | 1309          | 1322        | 1359            | N13 | W37 | .619        | 18027           | 20.8         | 50         | -N   | 3                    | C                              | 83               |         |     |
| ATHN     | 23  | 1315E         | 1317        | 1354            | N19 | W32 | .583        | 18027           | 21.2         | 39D        | -B   | 4                    | V                              | 1317             | 64      | 1.1 |
| 509 RAMY | 23  | 1531          | 1538        | 1558            | N11 | W40 | .652        | 18027           | 20.6         | 27         | -N   | 3                    | C                              |                  | 28      |     |
|          | 23  | 1914          | 1921        | NO FLARE PATROL |     |     |             |                 |              |            |      |                      |                                |                  |         |     |
| 510 HOLL | 23  | 1945          | 1951        | 2008            | N13 | E51 | .784        | 18035           | 27.6         | 23         | -F   | 3                    | C                              |                  | 22      | F   |
| 511 HOLL | 23  | 2029          | 2036        | 2040            | S08 | W63 | .895        | 18017           | 19.1         | 11         | -F   | 3                    | C                              |                  | 17      | FS  |
|          | 23  | 2045          | 2050        | NO FLARE PATROL |     |     |             |                 |              |            |      |                      |                                |                  |         |     |
| 512 CULG | 23  | 2114          | 2127        | 2230            | S11 | W55 | .831        | 18017           | 19.8         | 76         | -F   | C                    | 2127                           | 100              | 1.8     | FW  |
| 513 CULG | 23  | 2155          | 2205        | 2226            | N15 | W39 | .651        | 18027           | 21.0         | 31         | -F   | C                    | 2205                           | 70               | .9      |     |

## H - ALPHA SOLAR FLARES

91  
Nov 81

NOVEMBER 1981

| Sta      | Day | Start<br>(UT) | Max<br>(UT) | End<br>(UT)     | Lat | CMD | Can<br>Dist | Hale<br>Plage<br>Region | CMP<br>Day | Dur<br>(Min) | Imp | Obs<br>Type | Area<br>Time<br>(UT) | Measurement<br>Appar<br>(Disk) | Corr<br>(Sq Deg) | Remarks |
|----------|-----|---------------|-------------|-----------------|-----|-----|-------------|-------------------------|------------|--------------|-----|-------------|----------------------|--------------------------------|------------------|---------|
| GRP99514 | 23  | 2325+5        | 2330+1      | 2346            | N10 | W44 | .700        | 18027                   | 20.7       | 21           | -F  |             |                      | 40                             | .6               |         |
| CULG     | 23  | 2325          | 2330        | 2351            | N10 | W45 | .712        | 18027                   | 20.6       | 26           | -N  | C           | 2330                 | 40                             | .6               |         |
| LEAR     | 23  | 2330          | 2331        | 2340            | N11 | W43 | .690        | 18027                   | 20.8       | 10           | -F  | 3 C         |                      | 37                             |                  |         |
| 515 PEKG | 24  | 0110          | 0121        | 0125            | S22 | W90 | 1.000       |                         | 17.3       | 15           |     | P           | 0121                 |                                |                  | A       |
| 516 CULG | 24  | 0222          | 0226        | 0240            | N09 | W47 | .735        | 18027                   | 20.6       | 18           | -F  | C           | 0226                 | 40                             | .6               | J       |
| 517 ISTA | 24  | 0718          |             | 0740            | N12 | W49 | .762        | 18027                   | 20.6       | 22           | -N  |             |                      |                                |                  | E       |
| 518 LEAR | 24  | 0950          | 0953        | 1001            | S17 | W63 | .905        | 18019                   | 19.7       | 11           | -F  | 3 C         |                      | 22                             |                  |         |
| GRP99519 | 24  | 0956          | 1019        | 1140            | S15 | E33 | .598        | 18034                   | 26.9       | 104          | 1N  |             |                      | 220                            | 2.8              | EG      |
| KANZ     | 24  | 0956          | 1019        | 1134            | S14 | E33 | .592        | 18034                   | 26.9       | 98           | 1N  | 3           |                      |                                |                  | G       |
| HTPR     | 24  | 1025E         |             | 1053D           | S15 | E34 | .610        | 18034                   | 27.0       | 28D          | 1N  | C           | 1040                 | 240                            | 2.9              | E       |
| CATA     | 24  | 1030E         | 1035        | 1145D           | S15 | E31 | .573        | 18034                   | 26.8       | 75D          | 1   | 2 P         | 1035                 | 197                            | 2.5              |         |
| 520 CATA | 24  | 1240E         | 1245        | 1245D           | S18 | E90 | 1.000       | 18039                   | 1.3        | 5D           | 3   | 2 P         | 1245                 | 365                            |                  | A       |
|          | 24  | 1401          | 1406        | NO FLARE PATROL |     |     |             |                         |            |              |     |             |                      |                                |                  |         |
| 521 RAMY | 24  | 1453          | 1453        | 1459            | S12 | E90 | 1.000       | 18039                   | 1.4        | 6            | -F  | 3 C         |                      |                                |                  |         |
| GRP99522 | 24  | 1507          | 1511        | 1553            | N09 | E40 | .649        | 18035                   | 27.6       | 46           | -N  |             |                      |                                |                  |         |
| RAMY     | 24  | 1507          | 1511        | 1553            | N11 | E42 | .678        | 18035                   | 27.8       | 46           | -N  | 3 C         |                      | 39                             |                  |         |
| RAMY     | 24  | 1510          | 1511        | 1530            | N08 | E39 | .634        | 18035                   | 27.6       | 20           | -F  | 3 C         |                      | 31                             |                  |         |
|          | 24  | 1608          | 1612        | NO FLARE PATROL |     |     |             |                         |            |              |     |             |                      |                                |                  |         |
| 523 HOLL | 24  | 1723          | 1730        | 1805D           | N11 | E41 | .665        | 18035                   | 27.8       | 42D          | -N  | 3 C         |                      | 42                             |                  | F       |
|          | 24  | 1739          | 1803        | NO FLARE PATROL |     |     |             |                         |            |              |     |             |                      |                                |                  |         |
|          | 24  | 2003          | 2008        | NO FLARE PATROL |     |     |             |                         |            |              |     |             |                      |                                |                  |         |
| 524 HOLL | 24  | 2033          | 2040        | 2118            | N11 | E40 | .653        | 18035                   | 27.9       | 45           | 1B  | 3 C         |                      | 243                            |                  | FE      |
| 525 HOLL | 24  | 2214          | 2217        | 2225            | N13 | W59 | .861        | 18027                   | 20.5       | 11           | -F  | 3 C         |                      | 15                             |                  |         |
|          | 24  | 2312          | 2321        | NO FLARE PATROL |     |     |             |                         |            |              |     |             |                      |                                |                  |         |
| GRP99526 | 25  | 0151+9        | 0203+1      | 0209            | S06 | E75 | .967        | 18039                   | 30.7       | 18           | -N  |             |                      | 80                             |                  | D       |
| CULG     | 25  | 0151          | 0203        | 0217            | S04 | E75 | .967        | 18039                   | 30.7       | 26           | -N  | C           | 0203                 | 60                             |                  |         |
| LEAR     | 25  | 0154          | 0203        | 0209            | S07 | E75 | .967        | 18039                   | 30.7       | 15           | -N  | 3 C         |                      |                                |                  |         |
| VORO     | 25  | 0200          | 0204        | 0209            | S06 | E76 | .971        | 18039                   | 30.8       | 9            | 1N  | C           | 0204                 | 108                            |                  | D       |
| 527 CULG | 25  | 0203          | 0206        | 0218            | N11 | E57 | .842        | 18037                   | 29.4       | 15           | -F  | C           | 0206                 | 30                             | .5               | G       |
| GRP99528 | 25  | 0520          | 0522        | 0557            | N13 | W62 | .886        | 18027                   | 20.6       | 37           | 1B  |             |                      |                                |                  | FJU     |
|          |     | 0543          |             |                 |     |     |             |                         |            |              |     |             |                      |                                |                  |         |
| LEAR     | 25  | 0520          | 0522        | 0546            | N14 | W57 | .845        | 18027                   | 20.9       | 26           | 1B  | 3 C         |                      | 190                            |                  | UF      |
| CULG     | 25  | 0541E         | 0543U       | 0607            | N12 | W68 | .928        | 18027                   | 20.1       | 26D          | -F  | P           | 0543                 | 30                             |                  | J       |
| 529 ABST | 25  | 0628          | 0631        | 0650            | N11 | E33 | .560        | 18035                   | 27.7       | 22           | -F  | C           | 0631                 | 131                            | 1.6              | EJ      |
| GRP99530 | 25  | 0648+1        | 0651+1      | 0701            | N08 | E11 | .219        | 18033                   | 26.1       | 13           | -N  |             |                      | 80                             | .8               | DH      |
| CULG     | 25  | 0648          | 0651        | 0703            | N09 | E10 | .214        | 18033                   | 26.0       | 15           | -N  | C           | 0651                 | 70                             | .7               |         |
| ABST     | 25  | 0649          | 0652        | 0658            | N08 | E12 | .234        | 18033                   | 26.2       | 9            | -N  | C           | 0652                 | 87                             | .9               | DH      |
| GRP99531 | 25  | 0707+1        | 0710+7      | 0740            | N11 | E10 | .236        | 18033                   | 26.0       | 33           | -N  |             |                      | 110                            | 1.1              | DGJ     |
| CULG     | 25  | 0707          | 0717U       | 0731D           | N11 | E10 | .236        | 18033                   | 26.0       | 24D          | -N  | P           | 0717                 | 80                             | .8               |         |
| ABST     | 25  | 0708          | 0710        | 0740            | N09 | E10 | .214        | 18033                   | 26.0       | 32           | -N  | C           | 0710                 | 174                            | 1.8              | DJ      |
| YUNN     | 25  | 0711E         | 0714        | 0724D           | N11 | E10 | .236        | 18033                   | 26.0       | 13D          | -B  | P           |                      | 96                             | 1.0              | G       |
| CATA     | 25  | 0715E         | 0715        | 0720D           | N11 | E10 | .236        | 18033                   | 26.1       | 5D           | -   | 2 P         | 0715                 | 84                             | .9               |         |
| GRP99532 | 25  | 0738+7        | 0741+8      | 0800            | S07 | E71 | .948        | 18039                   | 30.6       | 22           | 1N  |             |                      | 80                             |                  | EUZ     |
| ABST     | 25  | 0738          | 0741        | 0800            | S08 | E70 | .942        | 18039                   | 30.6       | 22           | 1N  | C           | 0741                 | 174                            |                  | EZ      |
| CULG     | 25  | 0739          | 0742U       | 0742D           | S04 | E73 | .957        | 18039                   | 30.8       | 3D           | -N  | P           | 0742                 | 70                             |                  |         |
| YUNN     | 25  | 0740          | 0744        | 0752            | S06 | E71 | .947        | 18039                   | 30.6       | 12           | -N  | C           |                      | 64                             |                  | E       |
| ATHN     | 25  | 0745          | 0749        | 0814            | S07 | E70 | .942        | 18039                   | 30.6       | 25           | 1B  | 3 V         | 0749                 | 95                             | 2.7              |         |
| LEAR     | 25  | 0749E         | 0749U       | 0751D           | S09 | E72 | .954        | 18039                   | 30.7       | 2D           | 1F  | 2 C         |                      |                                |                  | UF      |

## H - ALPHA SOLAR FLARES

NOVEMBER 1981

| Sta      | Day | Start<br>(UT)        | Max<br>(UT) | End<br>(UT)     | Lat | CMD | Hale<br>Con<br>Dist | Plage<br>Region | CMP<br>Day | Dur<br>(Min) | Obs<br>Imp | Type | Area<br>Time<br>(UT) | Measurement<br>Appar<br>(Disk) | Corr<br>(Sq Deg) | Remarks |
|----------|-----|----------------------|-------------|-----------------|-----|-----|---------------------|-----------------|------------|--------------|------------|------|----------------------|--------------------------------|------------------|---------|
| GRP99533 | 25  | 0744+3               | 0748+3      | 0756            | N09 | E56 | .831                | 18037           | 29.5       | 12           | -F         |      |                      |                                |                  | EG      |
| ABST     | 25  | 0744                 | 0748        | 0756            | N09 | E56 | .831                | 18037           | 29.5       | 12           | 1F         | C    | 0748                 | 131                            | 2.4              | EG      |
| YUNN     | 25  | 0747                 | 0751        | 0756            | N10 | E57 | .841                | 18037           | 29.6       | 9            | -F         | C    |                      | 48                             | .9               | EG      |
| GRP99534 | 25  | 0827+3               | 0831+4      | 0853            | N11 | E32 | .546                | 18035           | 27.8       | 26           | 1N         |      |                      | 210                            | 2.5              | E       |
| ISTA     | 25  | 0827                 |             | 0843            | N13 | E33 | .568                | 18035           | 27.8       | 16           | -F         |      |                      |                                |                  | E       |
| LEAR     | 25  | 0828                 | 0831        | 0853            | N11 | E32 | .546                | 18035           | 27.8       | 25           | 1F         | 3 C  |                      | 214                            |                  | F       |
| ATHN     | 25  | 0830                 | 0835        | 0914            | N12 | E32 | .550                | 18035           | 27.8       | 44           | 1B         | 3 V  | 0835                 | 175                            | 2.2              |         |
| HTPR     | 25  | 0831E                |             | 0833D           | N10 | E32 | .543                | 18035           | 27.8       | 20           | 1N         | C    | 0833                 | 250                            | 2.9              | E       |
| GRP99535 | 25  | 0924+6               | 0924+6      | 0937            | N12 | E09 | .236                | 18033           | 26.1       | 13           | -N         |      |                      |                                |                  | G       |
| KANZ     | 25  | 0924E                | 0924        | 0934            | N12 | E10 | .247                | 18033           | 26.1       | 100          | -N         | 3    |                      |                                |                  | G       |
| CATA     | 25  | 0930                 | 0930        | 0940            | N12 | E09 | .236                | 18033           | 26.1       | 10           | -          | 2 C  | 0930                 | 45                             | .5               |         |
| 536 KANZ | 25  | 0952                 | 0957        | 1007            | S07 | E70 | .942                | 18039           | 30.7       | 15           | -N         | 2    |                      |                                |                  |         |
| GRP99537 | 25  | 1202+6               | 1205+6      | 1226            | S08 | E68 | .930                | 18039           | 30.6       | 24           | -N         |      |                      | 60                             |                  | E       |
| HTPR     | 25  | 1202                 | 1211        | 1225            | S08 | E68 | .930                | 18039           | 30.6       | 23           | -B         | C    | 1211                 | 80                             | 1.8              | E       |
| CATA     | 25  | 1205                 | 1205        | 1215D           | S09 | E69 | .937                | 18039           | 30.7       | 100          | 1          | 2 P  | 1205                 | 68                             |                  |         |
| RAMY     | 25  | 1208                 | 1210        | 1227            | S08 | E68 | .930                | 18039           | 30.6       | 19           | -F         | 3 C  |                      | 35                             |                  |         |
| 538 RAMY | 25  | 1253                 | 1255        | 1341            | N14 | W65 | .909                | 18027           | 20.7       | 48           | -N         | 3 C  |                      | 25                             |                  | F       |
| GRP99539 | 25  | 1454+2               | 1458+1      | 1527            | N14 | W66 | .916                | 18027           | 20.7       | 33           | -F         |      |                      | 45                             |                  |         |
| HTPR     | 25  | 1454                 | 1458        | 1520            | N15 | W68 | .929                | 18027           | 20.5       | 26           | -N         | C    | 1458                 | 40                             | .9               |         |
| RAMY     | 25  | 1456                 | 1459        | 1533            | N13 | W65 | .908                | 18027           | 20.7       | 37           | -F         | 3 C  |                      | 49                             |                  |         |
| 540 RAMY | 25  | 1531                 | 1531        | 1543            | S04 | E68 | .928                | 18039           | 30.7       | 12           | -F         | 3 C  |                      | 31                             |                  |         |
|          | 25  | 1545                 | 1710        | NO FLARE PATROL |     |     |                     |                 |            |              |            |      |                      |                                |                  |         |
|          | 25  | 1734                 | 1817        | NO FLARE PATROL |     |     |                     |                 |            |              |            |      |                      |                                |                  |         |
| GRP99541 | 25  | 1816                 | 1819+1      | 1831            | S07 | E66 | .917                | 18039           | 30.7       | 15           | 1N         |      |                      | 200                            |                  | F       |
| BOUL     | 25  | 1816                 | 1820        | 1827            | S07 | E68 | .930                | 18039           | 30.9       | 11           | 1N         | 2 C  |                      | 135                            |                  | F       |
| RAMY     | 25  | 1819E                | 1819U       | 1835            | S08 | E65 | .910                | 18039           | 30.6       | 16D          | 1B         | 3 C  |                      | 264                            |                  |         |
|          | 25  | 1851                 | 1852        | NO FLARE PATROL |     |     |                     |                 |            |              |            |      |                      |                                |                  |         |
|          | 25  | 1959                 | 2017        | NO FLARE PATROL |     |     |                     |                 |            |              |            |      |                      |                                |                  |         |
| 542 CULG | 25  | 2024                 | 2027        | 2045            | N09 | E27 | .467                | 18035           | 27.9       | 21           | -F         | C    | 2027                 | 60                             | .7               |         |
| 543 CULG | 25  | 2045                 | 2112        | 2145            | N10 | W73 | .956                | 18027           | 20.4       | 60           | -F         | C    | 2112                 | 50                             |                  | J       |
| 544 CULG | 25  | 2114                 | 2118        | 2133            | N09 | E27 | .467                | 18035           | 27.9       | 19           | -N         | C    | 2118                 | 80                             | .9               | J       |
| GRP99545 | 25  | 2315                 | 2323        | 0020            | N11 | E22 | .403                | 18035           | 27.6       | 65           | ?N         |      |                      |                                |                  | FIJ     |
| CULG     | 25  | 2315                 | 2323        | 0020            | N13 | E21 | .402                | 18035           | 27.5       | 65           | ?N         | C    | 2323                 | 540                            | 5.9              | J1      |
|          |     | IMP.2 IMP.S          |             |                 |     |     |                     |                 |            |              |            |      |                      |                                |                  |         |
| MANI     | 25  | 2325E                | 2325        | 2353D           | N10 | E24 | .427                | 18035           | 27.8       | 28D          | -B         | 1 V  |                      | 130                            | 1.5              | F       |
| 546 CULG | 25  | 2342                 | 2401        | 0040            | N10 | W75 | .966                | 18027           | 20.4       | 58           | 1F         | C    | 2401                 | 100                            |                  |         |
| GRP99547 | 26  | 0130+3               | 0135+0      | 0143            | S08 | E69 | .936                | 18039           | 1.2        | 13           | -F         |      |                      | 50                             |                  | DJ      |
| CULG     | 26  | 0130                 | 0135        | 0146            | S08 | E69 | .936                | 18039           | 1.2        | 16           | -F         | C    | 0135                 | 70                             |                  | J       |
| YUNN     | 26  | 0133                 | 0135        | 0139            | S09 | E69 | .937                | 18039           | 1.2        | 6            | -N         | C    |                      | 32                             |                  | D       |
| 548 CULG | 26  | 0208                 | 0210        | 0218            | S08 | E68 | .930                | 18039           | 1.2        | 10           | -F         | C    | 0210                 | 30                             |                  | J       |
| 549 YUNN | 26  | 0628E                | 0630U       | 0642            | N12 | E20 | .381                | 18035           | 27.8       | 14D          | -N         | P    |                      | 64                             | .7               | E       |
| 550 YUNN | 26  | 0628E                | 0629        | 0638            | S11 | E67 | .926                | 18039           | 1.3        | 10D          | -N         | P    |                      | 48                             |                  | E       |
| 551 ABST | 26  | 0633E                | 0633        | 0636D           | N14 | W72 | .952                | 18027           | 20.9       | 3D           | ?F         | P    | 0633                 | 87                             |                  | D       |
|          |     | IMP.1 NO : YUNN CULG |             |                 |     |     |                     |                 |            |              |            |      |                      |                                |                  |         |
| GRP99552 | 26  | 0654+9               | 0710        | 0731            | N14 | E18 | .370                | 18035           | 27.6       | 37           | -N         |      |                      |                                |                  | J       |
|          |     |                      | 0717        |                 |     |     |                     |                 |            |              |            |      |                      |                                |                  |         |
| YUNN     | 26  | 0654                 | 0710        | 0730            | N13 | E19 | .375                | 18035           | 27.7       | 36           | -N         | C    |                      | 80                             | .9               |         |
| CULG     | 26  | 0708                 | 0717        | 0732            | N15 | E17 | .367                | 18035           | 27.6       | 24           | -N         | P    | 0717                 | 60                             | .7               | JT      |

## H - ALPHA SOLAR FLARES

93  
Nov 81

NOVEMBER 1981

| Sta      | Day | Start<br>(UT) | Max<br>(UT) | End<br>(UT) | Lat  | Cmd | Hale<br>Cat | Plage<br>Dist | OMP<br>Day | Dur<br>(Min) | Obs<br>Imp | Type | Area<br>Time<br>(UT) | Measurement<br>Appar<br>(Disk) | Corr<br>(Sq Deg) | Remarks |
|----------|-----|---------------|-------------|-------------|------|-----|-------------|---------------|------------|--------------|------------|------|----------------------|--------------------------------|------------------|---------|
| GRP99553 | 26  | 0750+4        | 0753+5      | 0805        | N14  | W81 | .987        | 18027         | 20.3       | 15           | -N         |      |                      | 70                             |                  | D       |
| ABST     | 26  | 0750          | 0753        | 0757D       | N14  | W83 | .992        | 18027         | 20.1       | 70           | 1F         | P    | 0753                 | 87                             |                  | D       |
| PEKG     | 26  | 0754          | 0758        | 0805        | N14  | W80 | .985        | 18027         | 20.3       | 11           | -N         | P    | 0758                 | 55                             |                  | D       |
| 554 YUNN | 26  | 0806E         | 0807        | 0821D       | S13  | E67 | .927        | 18039         | 1.4        | 15D          | 2N         | P    |                      | 80                             |                  | E       |
|          |     |               | IMP.1       | NO : LEAR   | PEKG |     |             |               |            |              |            |      |                      |                                |                  |         |
| 555 YUNN | 26  | 0831          | 0833        | 0838        | S13  | E67 | .927        | 18039         | 1.4        | 7            | -F         | C    |                      | 48                             |                  | E       |
| GRP99556 | 26  | 0920+9        | 0933+1      | 1002        | S14  | E75 | .970        | 18046         | 2.0        | 42           | -N         |      |                      | 50                             |                  | D       |
| KHAR     | 26  | 0920          | 0933        | 0958        | S13  | E76 | .973        | 18046         | 2.1        | 38           | -N         | P    | 0930                 | 50                             |                  | D       |
| MONT     | 26  | 0930          | 0934        | 0945        | S15  | E76 | .974        | 18046         | 2.1        | 15           | -F         | C    | 0934                 | 50                             |                  | D       |
| LEAR     | 26  | 0930E         | 0933        | 0958        | S15  | E74 | .966        | 18046         | 1.9        | 28D          | -N         | 3 C  |                      |                                |                  |         |
| HTPR     | 26  | 0942E         |             | 1150        | S17  | E72 | .958        | 18046         | 1.8        | 128D         | -N         | * C  | 0945                 | 60                             |                  |         |
| KANZ     | 26  | 0949E         |             | 1009        | S12  | E74 | .965        | 18046         | 2.0        | 20D          | -F         | *    |                      |                                |                  |         |
| GRP99557 | 26  | 0935+9        | 0946+4      | 1008        | N11  | E19 | .360        | 18035         | 27.8       | 33           | -N         |      |                      | 90                             | 1.0              |         |
| LEAR     | 26  | 0935          | 0947        | 1006        | N11  | E19 | .360        | 18035         | 27.8       | 31           | -F         | 3 C  |                      | 113                            |                  | F       |
| MONT     | 26  | 0941          | 0946        | 1000        | N11  | E19 | .360        | 18035         | 27.8       | 19           | -N         | C    | 0946                 | 110                            |                  |         |
| HTPR     | 26  | 0942E         |             | 1250        | N12  | E18 | .353        | 18035         | 27.8       | 188D         | 1N         | C    | 1055                 | 350                            | 3.5              | E       |
| KHAR     | 26  | 0947          | 0950        | 1008        | N06  | E21 | .365        | 18035         | 28.0       | 21           | -F         | P    | 0950                 | 50                             | .5               |         |
| KANZ     | 26  | 0949E         | 0949        | 1009D       | N12  | E18 | .353        | 18035         | 27.8       | 20D          | -N         | 1    |                      |                                |                  |         |
| GRP99558 | 26  | 0959+4        | 1005+8      | 1027        | S06  | E59 | .861        | 18039         | 30.8       | 28           | -N         |      |                      | 40                             | .8               | D       |
| KANZ     | 26  | 0959          | 1009        | 1009D       | S06  | E56 | .833        | 18039         | 30.6       | 10D          | -F         | 1    |                      |                                |                  |         |
| HTPR     | 26  | 1000          | 1007        | 1033        | S07  | E57 | .844        | 18039         | 30.7       | 33           | -N         | C    | 1007                 | 30                             | .6               |         |
| LEAR     | 26  | 1000          | 1007        | 1014D       | S09  | E64 | .903        | 18039         | 1.2        | 14D          | -F         | 2 C  |                      | 36                             |                  |         |
| ATHN     | 26  | 1001          | 1005        | 1018        | S06  | E69 | .942        | 18039         | 1.6        | 17           | -B         | * V  | 1005                 | 64                             | 1.7              |         |
| KHAR     | 26  | 1003          | 1013        | 1027        | S06  | E55 | .823        | 18039         | 30.5       | 24           | -F         | P    | 1013                 | 10                             |                  | D       |
| 99559    | 26  | 1120+9        | 1120        | 1136        | S13  | E72 | .956        | 18046         | 1.9        | 16           | -F         |      |                      |                                |                  | D       |
| KHAR     | 26  | 1120          | 1120        | 1130        | S14  | E73 | .961        | 18046         | 1.9        | 10           | -F         | * P  |                      |                                |                  | D       |
| KANZ     | 26  | 1129          | 1137        | 1142        | S13  | E71 | .950        | 18046         | 1.8        | 13           | -F         | *    |                      |                                |                  |         |
| 560 HTPR | 26  | 1339          | 1345        | 1411        | S17  | E71 | .953        | 18046         | 1.9        | 32           | -N         | C    | 1345                 | 40                             |                  |         |
| GRP99561 | 26  | 1425+8        | 1427+6      | 1447        | S15  | E70 | .946        | 18046         | 1.9        | 22           | -N         |      |                      |                                |                  | E       |
| HTPR     | 26  | 1425          | 1427        | 1437        | S17  | E71 | .953        | 18046         | 1.9        | 12           | -N         | C    | 1427                 | 50                             |                  | E       |
| HOLL     | 26  | 1433          | 1433U       | 1456        | S13  | E69 | .939        | 18046         | 1.8        | 23           | 1F         | 1 C  |                      | 153                            |                  |         |
|          | 26  | 1559          | 1605        |             |      |     |             |               |            |              |            |      |                      |                                |                  |         |
| 562 HOLL | 26  | 1615          | 1621        | 1714        | N13  | E11 | .272        | 18035         | 27.5       | 59           | 2B         | 3 C  |                      | 547                            |                  | UF      |
| 563 HOLL | 26  | 1734          | 1734        | 1749        | S12  | E60 | .875        | 18039         | 1.2        | 15           | -N         | 3 C  |                      | 26                             |                  |         |
| 564 HOLL | 26  | 1750          | 1750        | 1756        | N11  | E13 | .276        | 18035         | 27.7       | 6            | -F         | 3 C  |                      | 31                             |                  |         |
| 565 HOLL | 26  | 1800          | 1801        | 1832        | S08  | E58 | .854        | 18039         | 1.1        | 32           | -N         | 3 C  |                      | 57                             |                  |         |
|          | 26  | 1812          | 1822        |             |      |     |             |               |            |              |            |      |                      |                                |                  |         |
| GRP99566 | 26  | 1926+1        | 1944+1      | 2006        | S06  | E50 | .772        | 18039         | 30.6       | 40           | 2N         |      |                      | 340                            | 5.4              | FS      |
| HOLL     | 26  | 1926          | 1944        | 2006        | S06  | E50 | .772        | 18039         | 30.6       | 40           | 1B         | 3 C  |                      | 330                            |                  | FS      |
| PALE     | 26  | 1927          | 1945        | 2006        | S07  | E50 | .773        | 18039         | 30.6       | 39           | 2N         | 2 C  |                      | 352                            |                  | F       |
| 567 HOLL | 26  | 1955          | 1958        | 2000        | N09  | W82 | .990        | 18027         | 20.7       | 5            | -F         | 3 C  |                      |                                |                  |         |
| GRP99568 | 26  | 2322+4        | 2326+3      | 2340        | S06  | E59 | .861        | 18039         | 1.4        | 18           | -N         |      |                      | 60                             | 1.2              | F       |
| CULG     | 26  | 2322          | 2326        | 2344        | S06  | E59 | .861        | 18039         | 1.4        | 22           | -N         | * C  | 2326                 | 60                             | 1.2              |         |
| PALE     | 26  | 2326          | 2329        | 2336        | S07  | E60 | .870        | 18039         | 1.5        | 10           | -N         | * C  |                      | 68                             |                  | F       |
| 569 CULG | 26  | 2323          | 2326        | 2334        | N11  | E03 | .172        | 18035         | 27.2       | 11           | -F         | C    | 2326                 | 30                             | .3               |         |
| 570 PEKG | 27  | 0200          | 0230        | 0500        | N20  | E90 | 1.000       |               | 3.8        | 180          | -F         | P    |                      |                                |                  | A       |
| GRP99571 | 27  | 0218+4        | 0220+7      | 0239        | N09  | E08 | .191        | 18035         | 27.7       | 21           | -N         |      |                      | 60                             | .6               | E       |
| PURP     | 27  | 0218          | 0227        | 0239        | N09  | E09 | .203        | 18035         | 27.8       | 21           | -N         | C    | 0227                 | 79                             | .8               | E       |
| CULG     | 27  | 0219U         | 0226        | 0239        | N09  | E08 | .191        | 18035         | 27.7       | 200          | -N         | C    | 0226                 | 70                             | .7               |         |
| MANI     | 27  | 0220          | 0220        | 0223D       | N06  | E07 | .145        | 18035         | 27.6       | 3D           | -N         | 1 V  |                      | 30                             | .3               |         |
| YUNN     | 27  | 0222          | 0225        | 0232        | N09  | E09 | .203        | 18035         | 27.8       | 10           | -N         | C    |                      | 64                             | .7               | E       |

## H - ALPHA SOLAR FLARES

NOVEMBER 1981

| Sta      | Day  | Start<br>(UT) | Max<br>(UT) | End<br>(UT) | Lat             | CND | Hale        |                 | CMP<br>Day | Dur<br>(Min) | Imp | Obs<br>Type | Area<br>Time<br>(UT) | Measurement     |                  | Remarks |    |
|----------|------|---------------|-------------|-------------|-----------------|-----|-------------|-----------------|------------|--------------|-----|-------------|----------------------|-----------------|------------------|---------|----|
|          |      |               |             |             |                 |     | Can<br>Dist | Plage<br>Region |            |              |     |             |                      | Appar<br>(Disk) | Corr<br>(Sq Deg) |         |    |
| 572      | CULG | 27            | 0240        | 0246        | 0300            | S12 | E65         | .913            | 18039      | 2.0          | 20  | -F          | C                    | 0246            | 30               | .7      |    |
| GRP99573 |      | 27            | 0426+3      | 0433+2      | 0451            | N12 | 00          | .184            | 18035      | 27.2         | 25  | 1F          |                      |                 | 260              | 2.6     | J  |
|          | CULG | 27            | 0426        | 0433        | 0455            | N12 | W01         | .185            | 18035      | 27.1         | 29  | 1N          | C                    | 0433            | 240              | 2.4     | J  |
|          | PURP | 27            | 0429        | 0435        | 0447            | N13 | E02         | .204            | 18035      | 27.3         | 18  | 1F          | P                    | 0435            | 277              | 2.9     |    |
| GRP99574 |      | 27            | 0500+5      | 0514+1      | 0535            | S04 | E45         | .711            | 18039      | 30.6         | 35  | -F          |                      |                 | 60               | .9      | D  |
|          | CULG | 27            | 0500        | 0514        | 0536            | S04 | E45         | .711            | 18039      | 30.6         | 36  | -F          | C                    | 0514            | 80               | 1.1     |    |
|          | PEKG | 27            | 0503        | 0515        | 0534            | S05 | E45         | .712            | 18039      | 30.6         | 29  | -N          | C                    | 0515            | 46               | .7      | D  |
| 575      | CULG | 27            | 0551        | 0555        | 0617            | S00 | E54         | .809            |            | 1.3          | 26  | -F          | C                    | 0555            | 30               | .5      |    |
| 576      | PEKG | 27            | 0630        | 0635        | 0640            | S15 | E90         | 1.000           | 18047      | 4.0          | 10  | -F          | C                    | 0635            |                  |         | A  |
| 577      | PEKG | 27            | 0643        | 0645        | 0647            | N11 | W01         | .170            | 18035      | 27.2         | 4   | -N          | * C                  | 0645            | 55               | .6      | E  |
| 578      | YUNN | 27            | 0650        | 0652        | 0659D           | S02 | E54         | .810            | 18039      | 1.3          | 9D  | -N          | P                    | 0652            | 31               | .6      | EG |
| 579      | YUNN | 27            | 0815E       | 0817        | 0823            | S16 | E60         | .881            | 18039      | 1.8          | 8D  | -N          | P                    |                 | 31               | .7      | D  |
| 580      | YUNN | 27            | 0815        | 0817        | 0827            | S21 | E12         | .427            | 18042      | 28.2         | 12  | -F          | C                    |                 | 48               | .6      | E  |
| 581      | YUNN | 27            | 0816        | 0817        | 0839            | N11 | E05         | .187            | 18035      | 27.7         | 23  | -F          | C                    |                 | 31               | .3      |    |
| 582      | YUNN | 27            | 0853        | 0855        | 0858            | S21 | E11         | .420            | 18042      | 28.2         | 5   | -N          | C                    |                 | 32               | .4      | E  |
| 583      | RAMY | 27            | 1351        | 1401        | 1422            | N10 | E03         | .158            | 18035      | 27.8         | 31  | -F          | 3 C                  |                 | 71               |         |    |
| 584      | RAMY | 27            | 1358        | 1401        | 1415            | N06 | E03         | .095            | 18043      | 27.8         | 17  | -F          | 3 C                  |                 | 39               |         |    |
|          |      | 27            | 1519        | 1706        | NO FLARE PATROL |     |             |                 |            |              |     |             |                      |                 |                  |         |    |
| 585      | RAMY | 27            | 1723        | 1724        | 1735            | N11 | W01         | .167            | 18035      | 27.6         | 12  | -F          | 3 C                  |                 | 127              |         |    |
| 586      | CULG | 27            | 2159        | 2211        | 2306            | S00 | E45         | .707            |            | 1.3          | 67  | -F          | C                    | 2211            | 30               | .4      |    |
| 587      | CULG | 27            | 2248        | 2257        | 2320            | S13 | W11         | .310            | 18034      | 27.1         | 32  | -F          | C                    | 2257            | 40               | .4      |    |
| 588      | CULG | 28            | 0004        | 0008        | 0020            | N14 | W07         | .250            | 18035      | 27.5         | 16  | -F          | C                    | 0008            | 30               | .3      |    |
| GRP99589 |      | 28            | 0130E       | 0135+6      | 0222            | S12 | E43         | .704            | 18039      | 1.3          | 52  | -N          |                      |                 | 70               | 1.0     |    |
|          |      |               |             | 0218+3      |                 |     |             |                 |            |              |     |             |                      |                 |                  |         |    |
|          | PALE | 28            | 0130E       | 0135U       | 0227            | S14 | E43         | .710            | 18039      | 1.3          | 57D | -N          | 2 C                  |                 | 47               |         | F  |
|          | YUNN | 28            | 0140E       | 0141        | 0150            | S12 | E50         | .782            | 18039      | 1.8          | 10D | -N          | P                    | 0141            | 31               | .5      | D  |
|          | YUNN | 28            | 0157        | 0200        | 0213            | S11 | E36         | .614            | 18039      | 30.8         | 16  | -N          | C                    |                 | 16               | .2      | D  |
|          | CULG | 28            | 0213        | 0218        | 0237            | S11 | E42         | .689            | 18039      | 1.2          | 24  | -F          | C                    | 0218            | 80               | 1.1     |    |
| GRP99590 | LEAR | 28            | 0220        | 0221        | 0226            | S12 | E43         | .704            | 18039      | 1.3          | 6   | -N          | 3 C                  |                 | 60               |         | F  |
|          |      | 28            | 0240+5      | 0246+1      | 0252            | S10 | E36         | .610            | 18039      | 30.8         | 12  | -N          |                      |                 | 60               | .8      | EJ |
|          | PEKG | 28            | 0240        | 0247        | 0250            | S10 | E36         | .610            | 18039      | 30.8         | 10  | -N          | P                    | 0247            | 63               | .9      | E  |
|          | CULG | 28            | 0244        | 0246        | 0259            | S09 | E38         | .632            | 18039      | 1.0          | 15  | -N          | C                    | 0246            | 70               | 1.0     | J  |
| 591      | YUNN | 28            | 0245        | 0246        | 0252            | S10 | E36         | .610            | 18039      | 30.8         | 7   | -N          | C                    |                 | 47               | .6      |    |
|          |      | 28            | 0345        | 0346        | 0354D           | S13 | E37         | .635            | 18039      | 30.9         | 9D  | -N          | P                    |                 | 16               | .2      | D  |
| GRP99592 |      | 28            | 0407+0      | 0409+4      | 0426            | N11 | W08         | .217            | 18035      | 27.6         | 19  | -F          |                      |                 |                  |         | F  |
|          | CULG | 28            | 0407        | 0409        | 0430            | N11 | W09         | .228            | 18035      | 27.5         | 23  | -F          | C                    | 0409            | 30               | .3      |    |
|          | LEAR | 28            | 0407        | 0413        | 0421            | N11 | W07         | .207            | 18035      | 27.6         | 14  | -F          | 3 C                  |                 | 79               |         | F  |
| 593      | PURP | 28            | 0511        | 0514        | 0515D           | S12 | E36         | .618            | 18039      | 30.9         | 4D  | -N          | C                    | 0514            | 26               | .3      | D  |
| 594      | CULG | 28            | 0603        | 0605        | 0645            | S06 | W30         | .512            |            | 26.0         | 42  | -N          | C                    | 0605            | 40               | .5      |    |
| GRP99595 |      | 28            | 0604+9      | 0612+6      | 0633            | N11 | W08         | .217            | 18035      | 27.7         | 29  | -F          |                      |                 | 40               | .4      |    |
|          | CULG | 28            | 0604        | 0612        | 0643            | N12 | W08         | .231            | 18035      | 27.7         | 39  | -F          | * C                  | 0612            | 50               | .5      |    |
|          | LEAR | 28            | 0617        | 0618        | 0623            | N11 | W09         | .228            | 18035      | 27.6         | 6   | -F          | * C                  |                 | 28               |         |    |
| 596      | CULG | 28            | 0605        | 0610        | 0644            | S16 | E48         | .771            | 18039      | 1.9          | 39  | -F          | C                    | 0610            | 90               | 1.4     |    |
| 597      | ABST | 28            | 0628        | 0630        | 0636            | S12 | E34         | .592            | 18039      | 30.8         | 8   | -F          | P                    | 0630            | 105              | 1.3     | EJ |

## H - ALPHA SOLAR FLARES

95  
Nov 81

NOVEMBER 1981

| Sta      | Day | Start<br>(UT) | Max<br>(UT)    | End<br>(UT) | Lat | CMD | Can<br>Dist | Hale<br>P Plage<br>Region | CMP<br>Day | Dur<br>(Min) | Obs<br>Imp | Type | Area<br>Time<br>(UT) | Measurement<br>Appar<br>(Disk) | Corr<br>(Sq Deg) | Remarks         |
|----------|-----|---------------|----------------|-------------|-----|-----|-------------|---------------------------|------------|--------------|------------|------|----------------------|--------------------------------|------------------|-----------------|
| GRP99598 | 28  | 0724+3        | 0729+1         | 0750        | S11 | E43 | .701        | 18039                     | 1.5        | 26           | -N         |      |                      | 110                            | 1.6              | FJ              |
| ABST     | 28  | 0724          | 0730           | 0748        | S11 | E44 | .713        | 18039                     | 1.6        | 24           | -N         | C    | 0730                 | 140                            | 2.0              | FJ              |
| LEAR     | 28  | 0727          | 0729           | 0751        | S12 | E43 | .704        | 18039                     | 1.5        | 24           | -N         | 3 C  |                      | 81                             |                  | F               |
| GRP99599 | 28  | 0921          | 0947+0<br>0955 | 1024        | N09 | W12 | .246        | 18035                     | 27.5       | 63           | 1B         |      |                      |                                |                  | EV              |
| LEAR     | 28  | 0921          | 0947           | 10200       | N09 | W13 | .260        | 18035                     | 27.4       | 59D          | 1B         | 3 C  |                      | 328                            |                  | FE              |
| ATHN     | 28  | 0943E         | 0947           | 1024        | N12 | W09 | .241        | 18035                     | 27.7       | 41D          | 1B         | 1 V  | 0947                 | 207                            | 2.2              |                 |
| HTPR     | 28  | 0944          |                | 0957D       | N10 | W12 | .255        | 18035                     | 27.5       | 13D          | 2B         | C    | 0948                 | 550                            | 5.5              | EV              |
| CATA     | 28  | 0950          | 0955           | 1020D       | N08 | W12 | .237        | 18035                     | 27.5       | 30D          | 1          | 2 P  | 0955                 | 394                            | 4.2              |                 |
|          | 28  | 1052          | 1056           |             |     |     |             |                           |            |              |            |      |                      |                                |                  | NO FLARE PATROL |
|          | 28  | 1058          | 1103           |             |     |     |             |                           |            |              |            |      |                      |                                |                  | NO FLARE PATROL |
|          | 28  | 1105          | 1112           |             |     |     |             |                           |            |              |            |      |                      |                                |                  | NO FLARE PATROL |
|          | 28  | 1114          | 1124           |             |     |     |             |                           |            |              |            |      |                      |                                |                  | NO FLARE PATROL |
| 600 HTPR | 28  | 1207          | 1210           | 1218        | S09 | E38 | .632        | 18039                     | 1.4        | 11           | -N         | C    | 1210                 | 80                             | 1.0              | E               |
|          | 28  | 1310          | 1322           |             |     |     |             |                           |            |              |            |      |                      |                                |                  | NO FLARE PATROL |
| 601 HTPR | 28  | 1334          |                | 1342        | N12 | W13 | .288        | 18035                     | 27.6       | 8            | -F         | C    | 1338                 | 20                             | .2               |                 |
|          | 28  | 1343          | 1348           |             |     |     |             |                           |            |              |            |      |                      |                                |                  | NO FLARE PATROL |
| 602 HTPR | 28  | 1406          | 1407           | 1427        | N12 | W14 | .301        | 18035                     | 27.5       | 21           | -F         | C    | 1407                 | 20                             | .2               |                 |
|          | 28  | 1447          | 1450           |             |     |     |             |                           |            |              |            |      |                      |                                |                  | NO FLARE PATROL |
|          | 28  | 1452          | 1821           |             |     |     |             |                           |            |              |            |      |                      |                                |                  | NO FLARE PATROL |
|          | 28  | 1915          | 1917           |             |     |     |             |                           |            |              |            |      |                      |                                |                  | NO FLARE PATROL |
| 603 PALE | 28  | 2048          | 2049           | 2054        | S22 | W08 | .416        | 18042                     | 28.3       | 6            | -F         | 3 C  |                      | 26                             |                  |                 |
| 604 PALE | 28  | 2104          | 2115           | 2123        | N11 | W18 | .348        | 18035                     | 27.5       | 19           | -N         | 3 C  |                      | 36                             |                  |                 |
| GRP99605 | 28  | 2113+2        | 2117+2         | 2128        | S13 | E60 | .876        | 18047                     | 3.4        | 15           | -N         |      |                      | 45                             | .9               |                 |
| CULG     | 28  | 2113E         | 2117           | 2133        | S14 | E60 | .877        | 18047                     | 3.4        | 20D          | -N         | P    | 2117                 | 60                             | 1.3              |                 |
| PALE     | 28  | 2115          | 2119           | 2122        | S13 | E60 | .876        | 18047                     | 3.4        | 7            | -N         | 3 C  |                      | 32                             |                  |                 |
| 606 PALE | 28  | 2153          | 2155           | 2209        | S11 | E36 | .614        | 18039                     | 1.6        | 16           | -N         | 3 C  |                      | 82                             |                  | E               |
| 607 CULG | 28  | 2308          | 2312           | 2345        | S07 | E33 | .559        | 18039                     | 1.4        | 37           | -N         | C    | 2312                 | 50                             | .6               |                 |
| GRP99608 | 28  | 2315+2        | 2317+5         | 2333        | N09 | W17 | .319        | 18035                     | 27.7       | 18           | -F         |      |                      | 40                             | .4               |                 |
| CULG     | 28  | 2256          | 2312           | 2350        | N09 | W20 | .364        | 18035                     | 27.5       | 54           | -N         | * C  | 2312                 | 60                             | .7               |                 |
| LEAR     | 28  | 2315          | 2317           | 2327        | N09 | W17 | .319        | 18035                     | 27.7       | 12           | -F         | * C  |                      | 31                             |                  | F               |
| PALE     | 28  | 2317          | 2322           | 2333        | N08 | W17 | .313        | 18035                     | 27.7       | 16           | -F         | * C  |                      | 26                             |                  | E               |
| GRP99609 | 29  | 0041+2        | 0045+1         | 0055        | S21 | W09 | .404        | 18042                     | 28.4       | 14           | -F         |      |                      | 60                             | .7               |                 |
| CULG     | 29  | 0041          | 0045           | 0102        | S21 | W10 | .410        | 18042                     | 28.3       | 21           | -N         | C    | 0045                 | 70                             | .8               |                 |
| LEAR     | 29  | 0043          | 0046           | 0048        | S21 | W09 | .404        | 18042                     | 28.4       | 5            | -F         | 3 C  |                      | 59                             |                  |                 |
| 610 CULG | 29  | 0154          | 0200           | 0207        | N16 | E13 | .336        | 18044                     | 30.1       | 13           | -F         | C    | 0200                 | 40                             | .4               |                 |
| 611 CULG | 29  | 0218          | 0243           | 0320        | N14 | W25 | .467        | 18035                     | 27.2       | 62           | -N         | C    | 0243                 | 90                             | 1.0              | K               |
| 612 CULG | 29  | 0246          | 0249           | 0302        | S14 | E56 | .843        | 18047                     | 3.3        | 16           | -F         | C    | 0249                 | 30                             | .5               |                 |
| 613 CULG | 29  | 0432          | 0436           | 0449        | N10 | W24 | .430        | 18035                     | 27.4       | 17           | -N         | C    | 0436                 | 80                             | .8               | J               |
| 614 CULG | 29  | 0448          | 0454           | 0511        | N05 | W19 | .331        | 18043                     | 27.8       | 23           | -F         | C    | 0454                 | 50                             | .6               |                 |
| 615 CULG | 29  | 0622          | 0626           | 0638D       | N13 | W23 | .433        | 18035                     | 27.5       | 16D          | -N         | P    | 0626                 | 30                             | .3               |                 |
| 616 YUNN | 29  | 0723E         | 0724           | 0730        | N10 | W24 | .430        | 18035                     | 27.5       | 7D           | -B         | P    | 0724                 | 63                             | .7               |                 |
| 617 YUNN | 29  | 0723          | 0724           | 0735        | N17 | E17 | .391        | 18044                     | 30.6       | 12           | -N         | C    |                      | 78                             | .9               | E               |



## H - ALPHA SOLAR FLARES

NOVEMBER 1981

| Sta      | Day | Start<br>(UT) | Max<br>(UT) | End<br>(UT)     | Lat | CND | Hale                      |       | CMP<br>Day | Dur<br>(Min) | Imp | Obs<br>Type | Area Measurement |                 |                  | Remarks |
|----------|-----|---------------|-------------|-----------------|-----|-----|---------------------------|-------|------------|--------------|-----|-------------|------------------|-----------------|------------------|---------|
|          |     |               |             |                 |     |     | Can                       | Plage |            |              |     |             | Time<br>(UT)     | Appar<br>(Disk) | Corr<br>(Sq Deg) |         |
| GRP99618 | 29  | 0919+1        | 0920+1      | 0933            | S13 | E25 | .478                      | 18039 | 1.3        | 14           | 1B  |             |                  | 180             | 2.1              | E       |
| HTPR     | 29  | 0919          | 0921        | 0928            | S13 | E25 | .478                      | 18039 | 1.3        | 9            | 1B  | C           | 0921             | 170             | 1.9              | E       |
| LEAR     | 29  | 0919          | 0921        | 0933            | S13 | E25 | .478                      | 18039 | 1.3        | 14           | 1B  | 2 C         |                  | 345             |                  | FE      |
| CATA     | 29  | 0920E         | 0920        | 0920D           | S13 | E25 | .478                      | 18039 | 1.3        |              | 1   | 2 P         | 0920             | 197             | 2.3              |         |
| KANZ     | 29  | 0920          | 0920        | 0934            | S13 | E25 | .478                      | 18039 | 1.3        | 14           | -N  | 2           |                  |                 |                  |         |
| ATHN     | 29  | 0920          | 0921        | 0933            | S15 | E30 | .556                      | 18039 | 1.6        | 13           | -B  | 2 V         | 0921             | 159             | 2.0              |         |
| GRP99619 | 29  | 0953+1        | 0954+4      | 1004            | S11 | E18 | .369                      | 18039 | 30.8       | 11           | -F  |             |                  |                 |                  |         |
| HTPR     | 29  | 0953          | 0958        | 1004            | S12 | E18 | .378                      | 18039 | 30.8       | 11           | -F  | C           | 0958             | 30              | .3               |         |
| KANZ     | 29  | 0954          | 0954        | 1004            | S10 | E19 | .374                      | 18039 | 30.8       | 10           | -F  | 1           |                  |                 |                  |         |
| 620 HTPR | 29  | 0957          | 1000        | 1020            | N14 | W28 | .508                      | 18035 | 27.3       | 23           | -F  | C           | 1000             | 20              | .2               |         |
| GRP99621 | 29  | 1029+3        | 1039+3      | 1058            | N15 | E12 | .313                      | 18044 | 30.3       | 29           | -F  |             |                  |                 |                  | E       |
| KANZ     | 29  | 1029          | 1039        | 1058            | N15 | E13 | .324                      | 18044 | 30.4       | 29           | -F  | 2           |                  |                 |                  |         |
| HTPR     | 29  | 1032          | 1042        | 1057            | N15 | E12 | .313                      | 18044 | 30.3       | 25           | -F  | C           | 1042             | 50              | .5               | E       |
| GRP99622 | 29  | 1120+2        | 1121+1      | 1130            | S11 | E17 | .355                      | 18039 | 30.7       | 10           | -N  |             |                  |                 |                  | E       |
| HTPR     | 29  | 1120          | 1121        | 1132            | S12 | E17 | .365                      | 18039 | 30.7       | 12           | -B  | C           | 1121             | 80              | .8               | E       |
| KANZ     | 29  | 1122          | 1122        | 1127            | S11 | E18 | .369                      | 18039 | 30.8       | 5            | -F  | 2           |                  |                 |                  |         |
| GRP99623 | 29  | 1122+2        | 1122+2      | 1130            | N13 | W27 | .489                      | 18035 | 27.4       | 8            | -F  |             |                  |                 |                  |         |
| KANZ     | 29  | 1122          | 1122        | 1132            | N13 | W27 | .489                      | 18035 | 27.4       | 10           | -N  | 2           |                  |                 |                  |         |
| HTPR     | 29  | 1124          | 1124        | 1128            | N13 | W28 | .502                      | 18035 | 27.4       | 4            | -F  | C           | 1124             | 40              | .4               |         |
| 624 HTPR | 29  | 1137          | 1138        | 1146            | N15 | E12 | .313                      | 18044 | 30.4       | 9            | -F  | C           | 1138             | 30              | .3               |         |
| 625 KANZ | 29  | 1152          | 1157        | 1211            | N21 | E90 | 1.000                     | 18051 | 6.2        | 19           | -N  | 2           |                  |                 |                  |         |
| 626 HTPR | 29  | 1209          | 1212        | 1215            | S10 | E20 | .388                      | 18039 | 1.0        | 6            | -N  | C           | 1212             | 30              | .3               |         |
| 627 HTPR | 29  | 1255          | 1313        | 1417            | N14 | W27 | .494                      | 18035 | 27.5       | 82           | -F  | C           | 1313             | 30              | .3               |         |
| 628 KANZ | 29  | 1309          | 1314        | 1333            | N21 | E90 | 1.000                     | 18051 | 6.3        | 24           | -N  | 2           |                  |                 |                  |         |
| 629 RAMY | 29  | 1600          | 1615        | 1647            | N13 | W28 | .502                      | 18035 | 27.6       | 47           | -N  | 3 C         |                  | 42              |                  |         |
| 630 RAMY | 29  | 1813          | 1814        | 1832            | N13 | W31 | .543                      | 18035 | 27.4       | 19           | -B  | 3 C         |                  | 98              |                  |         |
| GRP99631 | 29  | 1817          | 1822+2      | 1839            | S11 | E14 | .317                      | 18039 | 30.8       | 22           | -F  |             |                  | 40              | .4               |         |
| RAMY     | 29  | 1817          | 1824        | 1841            | S11 | E14 | .317                      | 18039 | 30.8       | 24           | -F  | 3 C         |                  | 47              |                  |         |
| PALE     | 29  | 1822E         | 1822U       | 1837            | S11 | E14 | .317                      | 18039 | 30.8       | 15D          | -F  | 2 C         |                  | 31              |                  |         |
| 632 RAMY | 29  | 1821          | 1822        | 1834            | N19 | E79 | .982                      | 18051 | 5.7        | 13           | -F  | 3 C         |                  |                 |                  |         |
| 633 RAMY | 29  | 1835          | 1839        | 1852            | N10 | W30 | .517                      | 18035 | 27.5       | 17           | -F  | 3 C         |                  | 53              |                  |         |
| 634 RAMY | 29  | 1916          | 1917        | 1929            | N10 | W30 | .517                      | 18035 | 27.6       | 13           | -F  | 3 C         |                  | 44              |                  |         |
| GRP99635 | 29  | 1926+2        | 1931+0      | 1942            | S10 | E16 | .333                      | 18039 | 1.0        | 16           | -B  |             |                  | 50              | .5               |         |
| PALE     | 29  | 1926          | 1931        | 1939            | S10 | E17 | .346                      | 18039 | 1.1        | 13           | -B  | 3 C         |                  | 42              |                  |         |
| RAMY     | 29  | 1928          | 1931        | 1945            | S11 | E15 | .330                      | 18039 | 30.9       | 17           | -B  | 3 C         |                  | 73              |                  |         |
| 636 RAMY | 29  | 1955          | 1956        | 2005            | N15 | E05 | .254                      | 18044 | 30.2       | 10           | -N  | 3 C         |                  | 34              |                  |         |
|          | 29  | 2155          | 2224        | NO FLARE PATROL |     |     |                           |       |            |              |     |             |                  |                 |                  |         |
| GRP99637 | 29  | 2327+0        | 2330+6      | 2358            | S10 | E10 | .258                      | 18039 | 30.7       | 31           | -F  |             |                  | 45              | .5               |         |
| CULG     | 29  | 2327E         | 2336U       | 0011U           | S10 | E10 | .258                      | 18039 | 30.7       | 44D          | -N  | P           | 2336             | 60              | .6               |         |
| PALE     | 29  | 2327          | 2330        | 2344            | S11 | E10 | .271                      | 18039 | 30.7       | 17           | -F  | 3 C         |                  | 51              |                  |         |
| GRP99638 | 30  | 0009E         | 0026+0      | 0058            | S09 | E20 | .380                      | 18039 | 1.5        | 49           | -N  |             |                  | 70              | .8               | EK      |
| CULG     | 30  | 0009E         | 0026U       | 0110            | S09 | E21 | .394                      | 18039 | 1.6        | 61D          | -B  | P           | 0026             | 100             | 1.1              |         |
| PALE     | 30  | 0019E         | 0026        | 0046            | S10 | E20 | .387                      | 18039 | 1.5        | 27D          | -F  | 2 C         |                  | 51              |                  | EK      |
| PALE     | 30  | 0019E         | 0019        | 0046            | S10 | E20 | .387                      | 18039 | 1.5        | 27D          | -F  | 2 C         |                  | 31              |                  | K       |
| 639 CULG | 30  | 0047E         | 0047U       | 0120            | N16 | E02 | .260                      | 18044 | 30.2       | 33D          | ?F  | P           | 0047             | 200             | 2.0              |         |
|          |     |               |             |                 |     |     | IMP.1 NO : LEAR VORO PEKG |       |            |              |     |             |                  |                 |                  |         |
| 640 PEKG | 30  | 0110          | 0115        | 0135            | S10 | E10 | .257                      | 18039 | 30.8       | 25           | -N  | C           | 0115             | 42              | .4               | D       |

## H - ALPHA SOLAR FLARES

97  
Nov 81

NOVEMBER 1981

| Sta      | Day | Start<br>(UT) | Max<br>(UT) | End<br>(UT) | Lat | CMD | Hale        |                 |            | Dur<br>(Min) | Imp | Obs<br>Type | Area Measurement |                 |                  | Remarks |
|----------|-----|---------------|-------------|-------------|-----|-----|-------------|-----------------|------------|--------------|-----|-------------|------------------|-----------------|------------------|---------|
|          |     |               |             |             |     |     | Can<br>Dist | Plage<br>Region | CMP<br>Day |              |     |             | Time<br>(UT)     | Appar<br>(Disk) | Corr<br>(Sq Deg) |         |
| GRP99641 | 30  | 0200-3        | 0205+0      | 0223        | N16 | E02 | .260        | 18044           | 30.2       | 23           | -F  |             |                  | 90              | .9               | EJ      |
| CULG     | 30  | 0200          | 0205        | 0230        | N16 | E02 | .260        | 18044           | 30.2       | 30           | -N  | C           | 0205             | 120             | 1.2              | J       |
| PALE     | 30  | 0203          | 0205        | 0216        | N16 | E02 | .260        | 18044           | 30.2       | 13           | -F  | 2 C         |                  | 74              |                  | E       |
| GRP99642 | 30  | 0202+6        | 0206+4      | 0228        | S10 | E11 | .268        | 18039           | 30.9       | 26           | -N  |             |                  |                 |                  |         |
| CULG     | 30  | 0155          | 0207        | 0235        | S10 | E10 | .257        | 18039           | 30.8       | 40           | -N  | * C         | 0207             | 220             | 2.2              | F       |
| PEKG     | 30  | 0202          | 0207        | 0225        | S09 | E09 | .233        | 18039           | 30.8       | 23           | -N  | * C         | 0207             | 92              | 1.0              | E       |
| PALE     | 30  | 0204          | 0206        | 0225        | S10 | S09 | .246        | 18039           | 30.8       | 21           | -N  | * C         |                  | 86              |                  | F       |
| LEAR     | 30  | 0205          | 0210        | 0230        | S11 | E13 | .303        | 18039           | 1.1        | 25           | -B  | * C         |                  | 120             |                  | FE      |
| VORO     | 30  | 0205          | 0209        | 0228        | S10 | E08 | .235        | 18039           | 30.7       | 23           | -F  | * C         | 0209             | 108             | 1.1              | D       |
| PEKG     | 30  | 0208          | 0209        | 0216        | S12 | E14 | .327        | 18039           | 1.1        | 8            | -N  | * C         | 0209             | 109             | 1.2              | E       |
| VORO     | 30  | 0208          | 0209        | 0218        | S12 | E14 | .327        | 18039           | 1.1        | 10           | 1F  | * C         | 0209             | 278             | 3.0              | E       |
| 643 CULG | 30  | 0243          | 0245        | 0258        | N14 | E23 | .441        | 18040           | 1.8        | 15           | -F  | C           | 0245             | 40              | .5               |         |
| 644 CULG | 30  | 0255          | 0257        | 0356        | N16 | E01 | .259        | 18044           | 30.2       | 61           | -N  | C           | 0257             | 140             | 1.4              | KJT     |
| 645 CULG | 30  | 0420U         | 0433U       | 0458        | S10 | E08 | .235        | 18039           | 30.8       | 38D          | -F  | P           | 0433             | 30              | .3               |         |
| 646 CULG | 30  | 0433E         | 0436U       | 0456        | N14 | E22 | .428        | 18040           | 1.8        | 23D          | -F  | P           | 0436             | 50              | .6               |         |
| GRP99647 | 30  | 0519+1        | 0523+3      | 0540        | N16 | 00  | .258        | 18044           | 30.2       | 21           | -N  |             |                  | 50              | .5               | J       |
| CULG     | 30  | 0519          | 0526        | 0547        | N15 | W02 | .244        | 18044           | 30.1       | 28           | -N  | C           | 0526             | 60              | .6               | EJ      |
| PEKG     | 30  | 0520          | 0523        | 0533        | N17 | E03 | .280        | 18044           | 30.4       | 13           | -N  | P           | 0523             | 46              | .5               | D       |
| GRP99648 | 30  | 0523+6        | 0530+1      | 0541        | N13 | W38 | .636        | 18035           | 27.4       | 18           | -F  |             |                  | 35              | .5               |         |
| CULG     | 30  | 0523          | 0530        | 0540        | N13 | W39 | .649        | 18035           | 27.3       | 17           | -F  | C           | 0530             | 30              | .4               |         |
| LEAR     | 30  | 0529          | 0531        | 0541        | N13 | W37 | .623        | 18035           | 27.5       | 12           | -F  | 2 C         |                  | 44              |                  |         |
| GRP99649 | 30  | 0548+9        | 0550        | 0604        | N13 | W38 | .636        | 18035           | 27.4       | 16           | -N  |             |                  |                 |                  | D       |
| CULG     | 30  | 0548          | 0550        | 0601        | N13 | W39 | .649        | 18035           | 27.3       | 13           | -N  | C           | 0550             | 30              | .4               |         |
| ABST     | 30  | 0600          | 0603        | 0606        | N14 | W38 | .639        | 18035           | 27.4       | 6            | -N  | C           | 0603             | 87              | 1.0              | D       |
| 650 CULG | 30  | 0710          | 0715        | 0728        | N14 | E21 | .414        | 18040           | 1.9        | 18           | -F  | C           | 0715             | 30              | .3               |         |
| GRP99651 | 30  | 0739+5        | 0753+2      | 0818        | S15 | E41 | .690        | 18047           | 3.4        | 39           | -F  |             |                  | 60              | .8               | HJ      |
| ABST     | 30  | 0739          | 0753        | 0814        | S15 | E40 | .678        | 18047           | 3.3        | 35           | -N  | C           | 0753             | 87              | 1.2              | DJ      |
| CULG     | 30  | 0744          | 0755U       | 0756D       | S13 | E41 | .682        | 18047           | 3.4        | 12D          | -F  | P           | 0755             | 40              | .6               | E       |
| LEAR     | 30  | 0759          | 0803        | 0821        | S15 | E42 | .701        | 18047           | 3.5        | 22           | -F  | 2 C         |                  | 117             |                  | EH      |
| GRP99652 | 30  | 0821+6        | 0822        | 0848        | N17 | 00  | .275        | 18044           | 30.3       | 27           | -N  |             |                  | 140             | 1.4              | JV      |
| ABST     | 30  | 0821          | 0822        | 0833        | N17 | E01 | .275        | 18044           | 30.4       | 12           | -N  | C           | 0822             | 175             | 1.9              | EJV     |
| LEAR     | 30  | 0827          | 0831        | 0856        | N17 | E00 | .275        | 18044           | 30.4       | 29           | -N  | 2 C         |                  | 181             |                  | F       |
| MONT     | 30  | 0830E         | 0830        | 0846        | N17 | W01 | .275        | 18044           | 30.3       | 16D          | -N  | C           | 0830             | 110             |                  | B       |
| KANZ     | 30  | 0834E         | 0834        | 0849        | N16 | W03 | .263        | 18044           | 30.1       | 15D          | -N  | 2           |                  |                 |                  |         |
| GRP99653 | 30  | 0848+3        | 0855+1      | 0908        | S12 | E11 | .293        | 18039           | 1.2        | 20           | -N  |             |                  | 110             | 1.2              | EJ      |
| ABST     | 30  | 0848          | 0855        | 0857D       | S11 | E11 | .280        | 18039           | 1.2        | 9D           | -N  | P           | 0855             | 183             | 2.0              | EJ      |
| KANZ     | 30  | 0850          | 0855        | 0909        | S12 | E11 | .293        | 18039           | 1.2        | 19           | -N  | 2           |                  |                 |                  |         |
| LEAR     | 30  | 0851          | 0856        | 0905        | S12 | E11 | .293        | 18039           | 1.2        | 14           | -N  | 2 C         |                  | 95              |                  | F       |
| MONT     | 30  | 0851          | 0856        | 0906        | S11 | E11 | .280        | 18039           | 1.2        | 15           | -B  | C           | 0856             | 70              |                  | E       |
| HTPR     | 30  | 0901E         |             | 0916        | S13 | E12 | .316        | 18039           | 1.3        | 15D          | -B  | C           | 0901             | 130             | 1.3              | E       |
| GRP99654 | 30  | 0941+2        | 0943+1      | 1005        | N16 | W02 | .260        | 18044           | 30.3       | 24           | -N  |             |                  | 150             | 1.5              | F       |
| MONT     | 30  | 0941          | 0943        | 0954        | N16 | W02 | .260        | 18044           | 30.3       | 13           | -N  | C           | 0943             | 110             |                  |         |
| LEAR     | 30  | 0943          | 0944        | 1016        | N16 | E01 | .259        | 18044           | 30.5       | 33           | 1N  | 2 C         |                  | 244             |                  | F       |
| HTPR     | 30  | 0943          | 0944        | 1005        | N16 | W02 | .260        | 18044           | 30.3       | 22           | -N  | C           | 0944             | 150             | 1.5              |         |
| 655 HTPR | 30  | 1019E         |             | 1117D       | N13 | W02 | .210        | 18044           | 30.3       | 58D          | -N  | C           | 1059             | 120             | 1.2              | E       |
|          | 30  | 1027          | 1057        |             |     |     |             |                 |            |              |     |             |                  |                 |                  |         |
|          | 30  | 1104          | 1109        |             |     |     |             |                 |            |              |     |             |                  |                 |                  |         |
|          | 30  | 1118          | 1159        |             |     |     |             |                 |            |              |     |             |                  |                 |                  |         |
| GRP99656 | 30  | 1200E         | 1227        | 1252        | N16 | W06 | .277        | 18044           | 30.1       | 52           | -N  |             |                  | 120             | 1.2              | U       |
| RAMY     | 30  | 1200E         | 1227        | 1250        | N16 | W05 | .271        | 18044           | 30.1       | 50D          | -N  | 3 C         |                  | 132             |                  | FU      |
| HTPR     | 30  | 1228E         |             | 1253D       | N16 | W07 | .284        | 18044           | 30.0       | 25D          | -N  | C           | 1232             | 120             | 1.2              | E       |

## H - ALPHA SOLAR FLARES

NOVEMBER 1981

| Sta      | Day  | Start<br>(UT) | Max<br>(UT) | End<br>(UT)     | Lat     | CMD     | Hale<br>Cen<br>Dist | Plage<br>Region | CMP<br>Day | Dur<br>(Min) | Obs<br>Imp | Type | Area<br>Time<br>(UT) | Measurement<br>Appar<br>(Disk) | Corr<br>(Sq Deg) | Remarks |   |
|----------|------|---------------|-------------|-----------------|---------|---------|---------------------|-----------------|------------|--------------|------------|------|----------------------|--------------------------------|------------------|---------|---|
| 657      | RAMY | 30            | 1207        | 1216            | 1224    | S11 E10 | .269                | 18039           | 1.3        | 17           | IN         | 3 C  |                      | 269                            |                  |         |   |
| 658      | RAMY | 30            | 1320        | 1322            | 1352    | N16 W06 | .277                | 18044           | 30.1       | 32           | -F         | 3 C  |                      | 88                             |                  |         |   |
| GRP99659 | 30   | 1345+3        | 1346        | 1355            | N20 E75 | .968    | 18051               | 6.2             | 10         | -N           |            |      |                      |                                |                  |         |   |
| HTPR     | 30   | 1345          | 1346        | 1351            | N21 E78 | .980    | 18051               | 6.4             | 6          | -B           |            | C    | 1346                 | 30                             |                  |         |   |
| RAMY     | 30   | 1348          | 1358        | 1359            | N19 E72 | .955    | 18051               | 6.0             | 11         | -F           | 3          | C    |                      |                                |                  |         |   |
| GRP99660 | 30   | 1358+0        | 1402+0      | 1431            | N14 W02 | .227    | 18044               | 30.4            | 33         | -N           |            |      |                      | 90                             | .9               | E       |   |
| RAMY     | 30   | 1358          | 1402        | 1422            | N14 W02 | .227    | 18044               | 30.4            | 24         | -N           | 3          | C    |                      | 82                             |                  |         |   |
| HTPR     | 30   | 1358          | 1402        | 1439            | N14 W03 | .230    | 18044               | 30.4            | 41         | -N           |            | C    | 1402                 | 100                            | 1.0              | E       |   |
| 661      | HTPR | 30            | 1418        | 1419            | 1424    | N21 E78 | .980                | 18051           | 6.4        | 6            | -B         |      | C                    | 1419                           | 30               |         |   |
|          | 30   | 1446          | 1520        | NO FLARE PATROL |         |         |                     |                 |            |              |            |      |                      |                                |                  |         |   |
| 662      | HOLL | 30            | 1604        | 1613            | 1638    | N16 W08 | .291                | 18044           | 30.1       | 34           | -N         | 3 C  |                      | 95                             |                  |         |   |
| 663      | HOLL | 30            | 1644        | 1644            | 1648    | N19 E64 | .907                | 18051           | 5.5        | 4            | -F         | 3 C  |                      | 12                             |                  |         |   |
| 664      | HOLL | 30            | 1913        | 1925U           | 1939    | S11 E09 | .259                | 18039           | 1.5        | 26           | -F         | 3 C  |                      | 22                             |                  |         |   |
|          | 30   | 1919          | 1923        | NO FLARE PATROL |         |         |                     |                 |            |              |            |      |                      |                                |                  |         |   |
| 665      | HOLL | 30            | 1937        | 1950            | 2029    | N21 E70 | .945                | 18051           | 6.1        | 52           | -N         | 3 C  |                      | 87                             |                  |         |   |
| 666      | HOLL | 30            | 1955        | 1956            | 2005    | N16 W10 | .308                | 18044           | 30.1       | 10           | -N         | 3 C  |                      | 36                             |                  | F       |   |
| GRP99667 | 30   | 2009+0        | 2010+1      | 2033            | N16 W10 | .308    | 18044               | 30.1            | 24         | -N           |            |      |                      | 80                             | .8               | FJ      |   |
| HOLL     | 30   | 2009          | 2011        | 2025            | N16 W10 | .308    | 18044               | 30.1            | 16         | -N           | 3          | C    |                      | 70                             |                  | F       |   |
| CULG     | 30   | 2009          | 2010        | 2040            | N16 W11 | .317    | 18044               | 30.0            | 31         | -N           |            | C    | 2010                 | 90                             | 1.0              | J       |   |
| GRP99668 | 30   | 2018+1        | 2021+0      | 2030            | S11 E08 | .249    | 18039               | 1.4             | 12         | -F           |            |      |                      | 35                             | .4               | F       |   |
| CULG     | 30   | 2018          | 2021        | 2028            | S11 E09 | .259    | 18039               | 1.5             | 10         | -F           |            | C    | 2021                 | 40                             | .4               |         |   |
| HOLL     | 30   | 2019          | 2021        | 2031            | S11 E08 | .249    | 18039               | 1.4             | 12         | -F           | 3          | C    |                      | 32                             |                  | F       |   |
|          | 30   | 2108          | 2113        | NO FLARE PATROL |         |         |                     |                 |            |              |            |      |                      |                                |                  |         |   |
| 669      | HOLL | 30            | 2137        | 2139            | 2154    | N09 E81 | .988                | 18052           | 7.0        | 17           | -F         | 3 C  |                      |                                |                  |         |   |
| GRP99670 | 30   | 2141+9        | 2244+0      | 2317            | N15 W10 | .294    | 18044               | 30.2            | 96         | -F           |            |      |                      |                                |                  | F       |   |
| HOLL     | 30   | 2141          | 2244        | 2321D           | N16 W11 | .317    | 18044               | 30.1            | 100D       | -N           | 3          | C    |                      | 91                             |                  | F       |   |
| LEAR     | 30   | 2244          | 2244        | 2313            | N15 W10 | .294    | 18044               | 30.2            | 29         | -F           | 3          | C    |                      | 27                             |                  | F       |   |
| 671      | HOLL | 30            | 2155        | 2157            | 2213    | N13 W48 | .755                | 18035           | 27.3       | 18           | -N         | 3 C  |                      | 53                             |                  | F       |   |
| 672      | CULG | 30            | 2223        | 2228            | 2242    | N22 E22 | .499                |                 | 2.6        | 19           | -F         |      | C                    | 2228                           | 30               | .4      | G |
| GRP99673 | 30   | 2255+5        | 2300        | 2329            | S10 W02 | .195    | 18039               | 30.8            | 34         | -F           |            |      |                      | 30                             | .3               | FK      |   |
|          |      |               | 2316+2      |                 |         |         |                     |                 |            |              |            |      |                      |                                |                  |         |   |
| CULG     | 30   | 2255          | 2318        | 2334            | S10 W03 | .198    | 18039               | 30.7            | 39         | -N           |            | C    | 2318                 | 80                             | .8               | K       |   |
| HOLL     | 30   | 2300          | 2300        | 2307            | S10 W02 | .195    | 18039               | 30.8            | 7          | -F           | 3          | C    |                      | 23                             |                  |         |   |
| HOLL     | 30   | 2315          | 2316        | 2321D           | S09 W02 | .178    | 18039               | 30.8            | 6D         | -F           | 3          | C    |                      | 33                             |                  | F       |   |
| LEAR     | 30   | 2316          | 2317        | 2324            | S10 W02 | .195    | 18039               | 30.8            | 8          | -F           | 3          | C    |                      | 21                             |                  | F       |   |

## H - ALPHA SOLAR FLARES

99  
Nov 81

NOVEMBER 1981

| Sta      | Day | Start<br>(UT) | Max<br>(UT) | End<br>(UT) | Lat | CND | Hale<br>Can<br>Dist | Plage<br>Region | CMP<br>Day | Dur<br>(Min) | Obs<br>Imp | Type | Area Measurement |                 |                  | Remarks |
|----------|-----|---------------|-------------|-------------|-----|-----|---------------------|-----------------|------------|--------------|------------|------|------------------|-----------------|------------------|---------|
|          |     |               |             |             |     |     |                     |                 |            |              |            |      | Time<br>(UT)     | Appar<br>(Disk) | Corr<br>(Sq Deg) |         |
| GRP99674 | 30  | 2301+5        | 2310+1      | 2330        | N21 | E68 | .934                | 18051           | 6.1        | 29           | -F         |      |                  |                 | 35               | F       |
| HOLL     | 30  | 2301          | 2311        | 2321D       | N20 | E67 | .928                | 18051           | 6.0        | 200          | -F         | 3 C  |                  |                 | 32               | F       |
| CULG     | 30  | 2306          | 2310        | 2330        | N22 | E70 | .946                | 18051           | 6.2        | 24           | -F         | C    | 2310             |                 | 40               |         |

## "Remarks":

- A = Eruptive prominence whose base is less than 90° from central meridian.  
 B = Probably the end of a more important flare.  
 C = Invisible 10 minutes before.  
 D = Brilliant point.  
 E = Two or more brilliant points.  
 F = Several eruptive centers.  
 G = No visible spots in the neighborhood.  
 H = Flare accompanied by high-speed dark filament.  
 I = Active region very extended.  
 J = Distinct variations of plage intensity before or after the flare.  
 K = Several intensity maxima.  
 L = Existing filaments show signs of sudden activity.  
 M = White-light flare.  
 N = Continuous spectrum shows effects of polarization.
- O = Observations have been made in the H and K lines of Ca II.  
 P = Flare shows helium D3 in emission.  
 Q = Flare shows Balmer continuum in emission.  
 R = Marked asymmetry in H-alpha line suggests ejection of high-velocity material.  
 S = Brightness follows disappearance of filament in same position.  
 T = Region active all day.  
 U = Two bright branches, parallel or converging.  
 V = Occurrence of an explosive phase: important, expansion within roughly 1 minute that often includes a significant intensity increase.  
 W = Great increase in area after time of maximum intensity.  
 X = Unusually wide H-alpha line.  
 Y = System of loop-type prominences.  
 Z = Major sunspot umbra covered by flare.

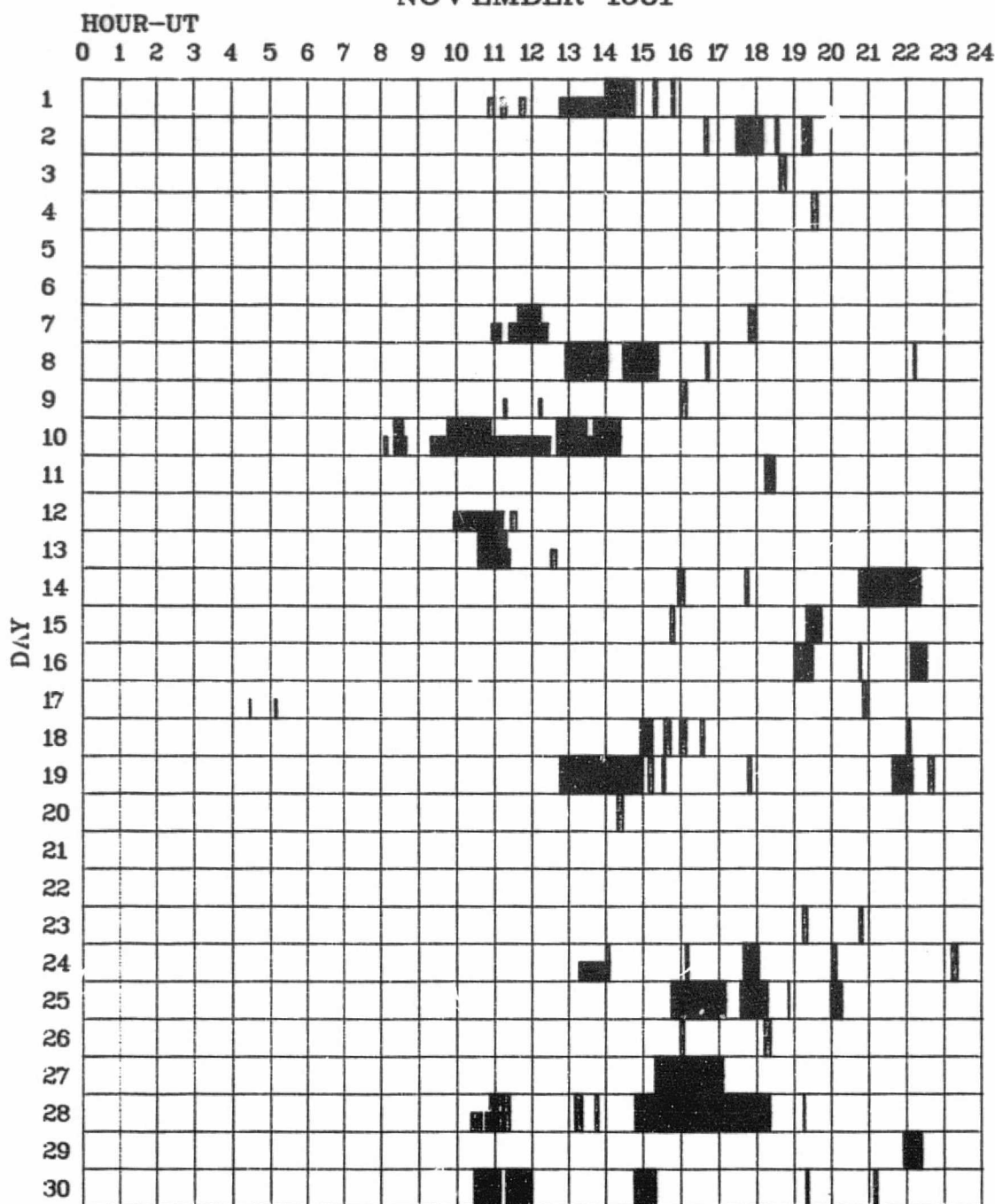
DAILY FLARE INDICES  
(Includes all Flares)

NOVEMBER 1981

| Day | Flare Index* | Hours<br>Observed | Day | Flare Index* | Hours<br>Observed | Day | Flare Index* | Hours<br>Observed |
|-----|--------------|-------------------|-----|--------------|-------------------|-----|--------------|-------------------|
| 01  | 78.96        | 23.0              | 11  | 107.93       | 23.7              | 21  | 56.72        | 24.0              |
| 02  | 107.23       | 22.9              | 12  | 123.92       | 24.0              | 22  | 115.87       | 24.0              |
| 03  | 118.38       | 23.8              | 13  | 222.09       | 23.3              | 23  | 34.36        | 23.8              |
| 04  | 202.42       | 23.8              | 14  | 389.76       | 22.1              | 24  | 318.80       | 23.2              |
| 05  | 168.73       | 24.0              | 15  | 111.00       | 23.5              | 25  | 102.87       | 21.5              |
| 06  | 114.59       | 24.0              | 16  | 28.61        | 23.0              | 26  | 629.74       | 23.7              |
| 07  | 175.18       | 23.2              | 17  | 69.68        | 23.9              | 27  | 96.26        | 22.2              |
| 08  | 85.65        | 21.8              | 18  | 179.43       | 23.2              | 28  | 131.69       | 19.7              |
| 09  | 627.65       | 23.8              | 19  | 33.83        | 20.9              | 29  | 118.25       | 23.5              |
| 10  | 85.00        | 21.1              | 20  | 47.11        | 23.8              | 30  | 169.75       | 22.0              |

\*When no flare index is given, it is zero for that day.

# INTERVALS OF NO FLARE PATROL OBSERVATION FOR PRECEDING SOLAR FLARE TABLE NOVEMBER 1981



Times of no flare patrol, shown here as shaded areas, combine reports from the observatories listed below. Portions of a panel completely shaded mark dates and times of no patrol of any kind, that is, of neither visual nor cinematographic; portions of a panel with only the bottom half shaded mark times of strictly visual patrol.

Abastumani  
Athens  
Catania  
Culgoora

Haute Provence  
Holloman  
Istanbul  
Kanzelhoehe

Kharkov  
Learmonth  
Manila  
Mitaka

Monte Mario  
Palehua  
Peking  
Purple Mt.

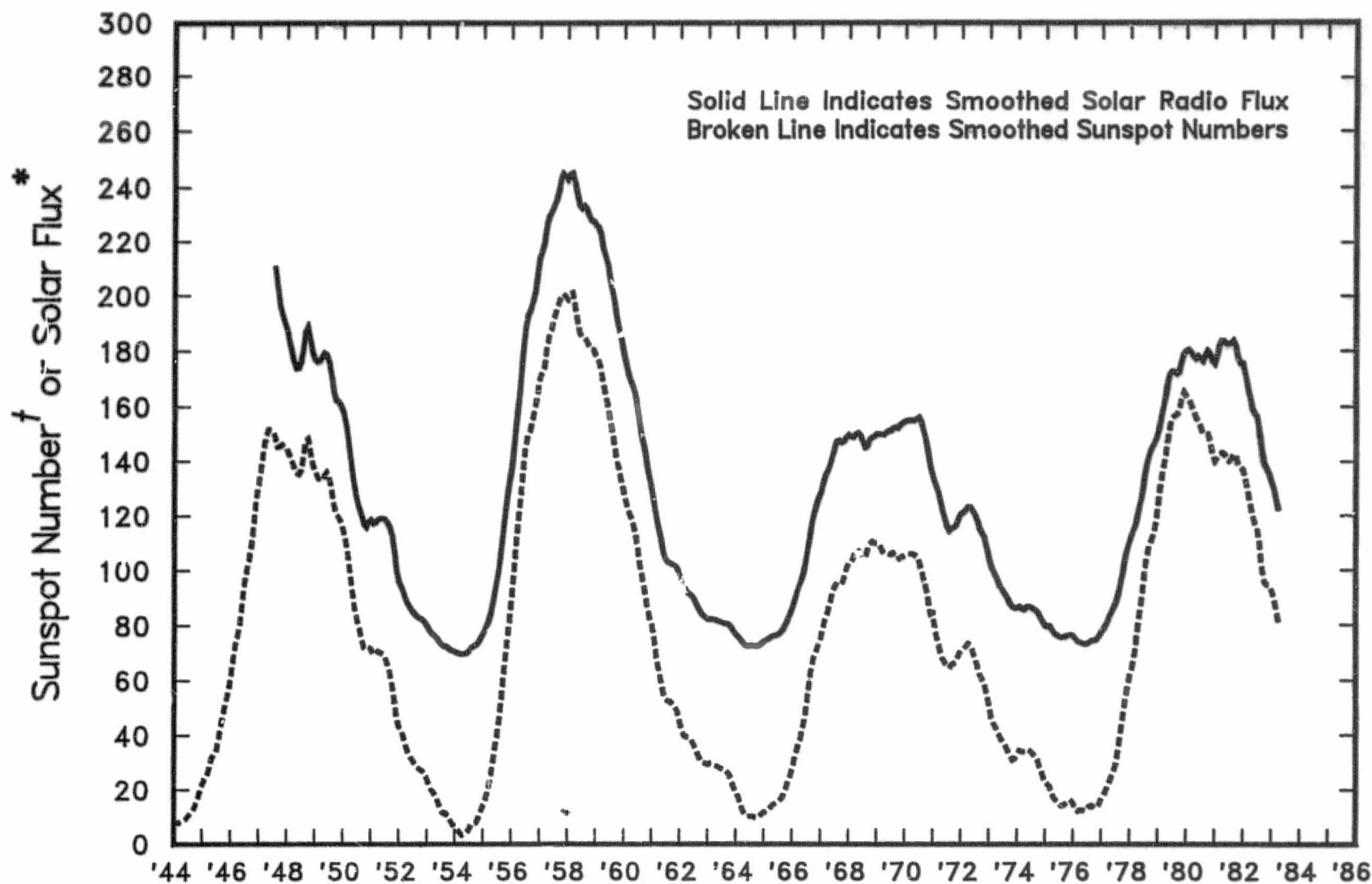
Ramey  
Tashkent  
Voroshilov  
Wendelstein  
Yunnan

NUMBER OF SOLAR FLARES  
(From the Grouped Flare Listings)

101  
Nov 81

|      | JAN  | FEB | MAR  | APR  | MAY | JUN | JUL | AUG | SEP | OCT  | NOV  | DEC  |
|------|------|-----|------|------|-----|-----|-----|-----|-----|------|------|------|
| 1966 |      |     |      |      |     |     |     | 391 | 558 | 432  | 417  | 543  |
| 1967 | 796  | 589 | 1009 | 694  | 771 | 629 | 907 | 911 | 573 | 946  | 775  | 1109 |
| 1968 | 1037 | 773 | 519  | 460  | 768 | 697 | 573 | 611 | 616 | 772  | 556  | 640  |
| 1969 | 581  | 504 | 669  | 655  | 839 | 694 | 489 | 551 | 540 | 643  | 566  | 422  |
| 1970 | 466  | 646 | 578  | 688  | 722 | 836 | 954 | 780 | 811 | 797  | 687  | 667  |
| 1971 | 598  | 505 | 387  | 546  | 461 | 430 | 713 | 673 | 518 | 375  | 431  | 394  |
| 1972 | 384  | 599 | 621  | 361  | 614 | 541 | 404 | 515 | 371 | 408  | 175  | 210  |
| 1973 | 221  | 171 | 410  | 453  | 388 | 270 | 232 | 182 | 353 | 201  | 136  | 163  |
| 1974 | 127  | 148 | 79   | 364  | 255 | 204 | 360 | 187 | 270 | 366  | 153  | 81   |
| 1975 | 68   | 82  | 69   | 19   | 42  | 85  | 196 | 346 | 68  | 38   | 127  | 25   |
| 1976 | 69   | 18  | 180  | 60   | 38  | 48  | 6   | 47  | 57  | 23   | 13   | 55   |
| 1977 | 54   | 77  | 18   | 76   | 64  | 210 | 140 | 140 | 250 | 252  | 107  | 336  |
| 1978 | 274  | 588 | 338  | 526  | 330 | 460 | 533 | 346 | 554 | 499  | 418  | 648  |
| 1979 | 926  | 781 | 731  | 731  | 907 | 772 | 750 | 821 | 901 | 1018 | 888  | 786  |
| 1980 | 703  | 689 | 621  | 1092 | 811 | 956 | 763 | 720 | 924 | 988  | 1027 | 838  |
| 1981 | 578  | 782 | 914  | 915  | 658 | 592 | 893 | 982 | 680 | 836  | 773  |      |

# SUNSPOT NUMBERS AND 10.7 cm SOLAR RADIO FLUX January 1944 - April 1983



\* Solar Flux Units ( $10^{-22}$  W/m<sup>2</sup> Hz) Adjusted to 1 A.U., Ottawa Series D.

† Reduced Zürich Sunspot Numbers.

*National Geophysical  
Data Center  
D.S. Wilkinson*

# CONTENTS

Comprehensive Reports

MISCELLANEOUS DATA

Number 482 Part II

Page

## MEUDON CARTE SYNOPTIQUE

|                                                            |         |
|------------------------------------------------------------|---------|
| Active Regions and Filaments 3 Mar - 26 Apr 1984 . . . . . | 104-105 |
| Synoptic Solar Maps 3 Mar - 26 Apr 1984 . . . . .          | 106-107 |



104  
Hisc  
Mar 84

# CARTE SYNOPTIQUE

## ACTIVE REGIONS CARRINGTON ROTATION 1746

(3 March to 30 March 1984)

| Region No. | Coordinates<br>Lat. Long. | Imp | Age at<br>CMP<br>(Days) | Spotless<br>Region | Region No. in<br>Rotation 1745 | Activity at<br>West Limb |
|------------|---------------------------|-----|-------------------------|--------------------|--------------------------------|--------------------------|
| 1          | 12°S 357                  | 1   | >6                      | x                  |                                | decreasing               |
| 2          | 11°S 354                  | 1   | >6                      | x                  |                                | dispersed                |
| 3          | 12°S 347                  | 2   | -1                      |                    |                                | decreasing               |
| 4          | 17°S 347                  | 1   | >6                      | x                  |                                | dispersed                |
| 5          | 11°S 343                  | 1   | >6                      | x                  | 1+2                            | decreasing               |
| 6          | 5°N 337                   | 2   | +2                      |                    |                                | decreasing               |
| 7          | 16°S 336                  | 1   | >6                      | x                  |                                | dispersed                |
| 8          | 15°S 320                  | 1   | >6                      | x                  | 5                              | dispersed                |
| 9          | 4°S 318                   | 2   | -1                      |                    |                                | decreasing               |
| 10         | 20°N 304                  | 1   | -2                      | x                  |                                | disappeared              |
| 11         | 9°S 302                   | 1   | >6                      | x                  | 9                              | decreasing               |
| 12         | 9°S 293                   | 3   | +3                      |                    |                                | decreasing               |
| 13         | 11°S 281                  | 2   | +2                      |                    |                                | stable                   |
| 14         | 9°S 279                   | 2   | +3                      |                    |                                | decreasing               |
| 15         | 14°S 275                  | 1   | >6                      |                    | 12+13                          | decreasing               |
| 16         | 14°S 269                  | 3   | >6                      |                    |                                | decreasing               |
| 17         | 15°S 258                  | 1   | >6                      | x                  | 15                             | decreasing               |
| 18         | 10°S 257                  | 4   | 0                       |                    |                                | stable                   |
| 19         | 17°S 245                  | 2   | -3                      |                    |                                | stable                   |
| 20         | 17°S 231                  | 2   | +1                      |                    |                                | decreasing               |
| 21         | 4°S 215                   | 3   | 0                       |                    |                                | decreasing               |
| 22         | 20°S 193                  | 1   | +2                      | x                  |                                | disappeared              |
| 23         | 6°N 187                   | 1   | -1                      | x                  |                                | disappeared              |
| 24         | 5°N 182                   | 1   | +3                      | x                  |                                | disappeared              |
| 25         | 6°N 175                   | 2   | -1                      |                    |                                | stable                   |
| 26         | 14°N 156                  | 2   | +4                      |                    |                                | decreasing               |
| 27         | 21°S 154                  | 2   | >6                      |                    |                                | decreasing               |
| 28         | 5°S 147                   | 1   | >6                      | x                  |                                | dispersed                |
| 29         | 24°S 146                  | 1   | >6                      | x                  | 23                             | dispersed                |
| 30         | 6°N 137                   | 2   | +1                      |                    |                                | decreasing               |
| 31         | 13°N 131                  | 3   | >6                      |                    |                                | decreasing               |
| 32         | 13°N 116                  | 3   | >6                      |                    |                                | decreasing               |
| 33         | 4°S 110                   | 1   | >6                      | x                  |                                | dispersed                |
| 34         | 17°N 107                  | 1   | >6                      | x                  | 25                             | decreasing               |
| 35         | 9°N 96                    | 2   | +1                      |                    |                                | decreasing               |
| 36         | 13°S 94                   | 3   | -2                      |                    |                                | decreasing               |
| 37         | 7°N 92                    | 1   | >6                      | x                  | 26+27+28                       | decreasing               |
| 38         | 11°N 83                   | 2   | >6                      |                    |                                | decreasing               |
| 39         | 20°N 83                   | 1   | >6                      | x                  | 29                             | decreasing               |
| 40         | 14°N 81                   | 2   | >6                      |                    |                                | decreasing               |
| 41         | 15°S 81                   | 1   | >6                      | x                  |                                | disappeared              |
| 42         | 14°S 76                   | 2   | >6                      |                    | 31                             | dispersed                |
| 43         | 11°S 73                   | 1   | >6                      |                    |                                | disappeared              |
| 44         | 13°S 62                   | 4   | >6                      |                    |                                | decreasing               |
| 45         | 8°S 57                    | 2   | >6                      |                    |                                | decreasing               |
| 46         | 13°S 51                   | 1   | >6                      | x                  | 35                             | dispersed                |
| 47         | 19°N 44                   | 1   | +1                      | x                  |                                | disappeared              |
| 48         | 10°N 38                   | 1   | -3                      | x                  |                                | dispersed                |
| 49         | 9°S 28                    | 3   | 0                       |                    |                                | stable                   |
| 50         | 14°S 5                    | 1   | >6                      | x                  |                                | dispersed                |

## CARTE SYNOPTIQUE

ACTIVE REGIONS  
GARRINGTON ROTATION 1747

(30 March to 26 April 1984)

105  
Misc  
Apr 84

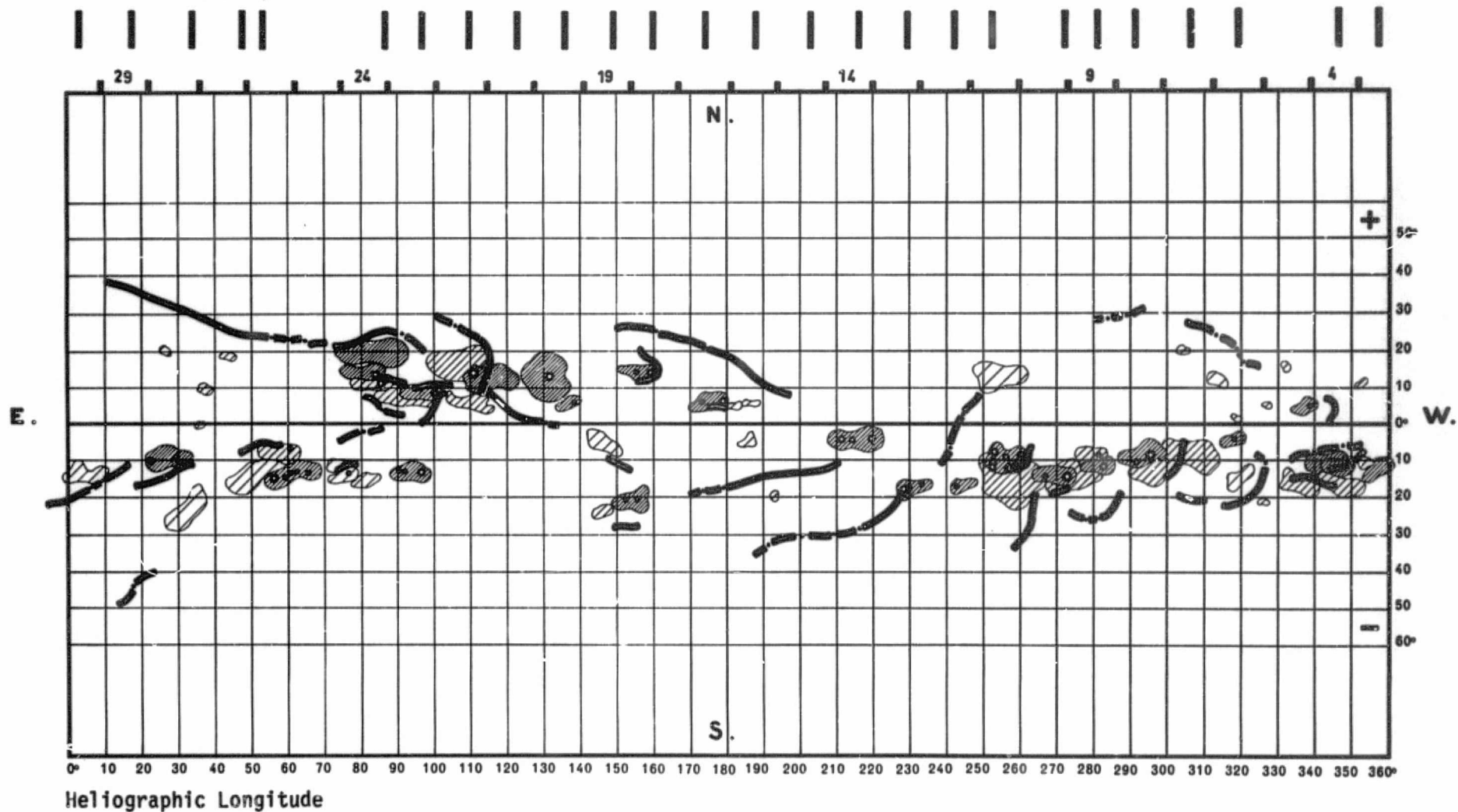
| Region No. | Coordinates |       | Imp | Age at CMP (Days) |   | Spotless Region | Region No. in Rotation 1746 | Activity at West Limb |
|------------|-------------|-------|-----|-------------------|---|-----------------|-----------------------------|-----------------------|
|            | Lat.        | Long. |     |                   |   |                 |                             |                       |
| 1          | 10°S        | 349   | 2   | >6                |   |                 |                             | stable                |
| 2          | 14°N        | 337   | 2   | +4                |   |                 |                             | disappeared           |
| 3          | 13°S        | 331   | 4   | >6                |   |                 |                             | decreasing            |
| 4          | 15°S        | 320   | 4   | >6                |   |                 |                             | decreasing            |
| 5          | 21°N        | 308   | 3   | >6                |   |                 |                             | decreasing            |
| 6          | 10°S        | 281   | 2   | >6                |   |                 | 13+14                       | decreasing            |
| 7          | 14°S        | 279   | 1   | >6                | x |                 | 15                          | dispersed             |
| 8          | 11°S        | 270   | 2   | -5                |   |                 |                             | decreasing            |
| 9          | 6°N         | 265   | 1   | 0                 | x |                 |                             | decreasing            |
| 10         | 15°S        | 260   | 1   | >6                | x |                 | 17                          | dispersed             |
| 11         | 12°S        | 259   | 1   | >6                | x |                 | 18                          | decreasing            |
| 12         | 18°S        | 246   | 1   | >6                | x |                 | 19                          | dispersed             |
| 13         | 6°S         | 226   | 1   | >6                | x |                 | 21                          | decreasing            |
| 14         | 3°N         | 201   | 1   | >6                | x |                 |                             | dispersed             |
| 15         | 5°N         | 182   | 1   | >6                | x |                 | 25                          | dispersed             |
| 16         | 4°N         | 153   | 3   | -3                |   |                 |                             | decreasing            |
| 17         | 22°S        | 150   | 2   | +1                |   |                 |                             | decreasing            |
| 18         | 8°N         | 141   | 5   | >6                |   |                 |                             | decreasing            |
| 19         | 15°N        | 134   | 1   | >6                | x |                 | 31                          | decreasing            |
| 20         | 6°N         | 116   | 1   | >6                | x |                 | 33                          | dispersed             |
| 21         | 18°N        | 106   | 1   | >6                | x |                 | 32+34                       | decreasing            |
| 22         | 16°S        | 97    | 2   | 0                 |   |                 |                             | disappeared           |
| 23         | 8°N         | 91    | 1   | >6                | x |                 |                             | dispersed             |
| 24         | 17°S        | 89    | 1   | >6                | x |                 |                             | decreasing            |
| 25         | 15°S        | 81    | 3   | >6                |   |                 |                             | decreasing            |
| 26         | 14°N        | 78    | 1   | >6                | x |                 | 37                          | dispersed             |
| 27         | 13°S        | 73    | 1   | >6                | x |                 |                             | dispersed             |
| 28         | 13°S        | 64    | 1   | >6                | x |                 | 44                          | dispersed             |
| 29         | 12°S        | 33    | 3   | >6                |   |                 |                             | decreasing            |

# CARTE SYNOPTIQUE

CARRINGTON ROTATION NUMBER 1746  
(March 3 to March 30, 1984)

Meudon Observatory

March 1984

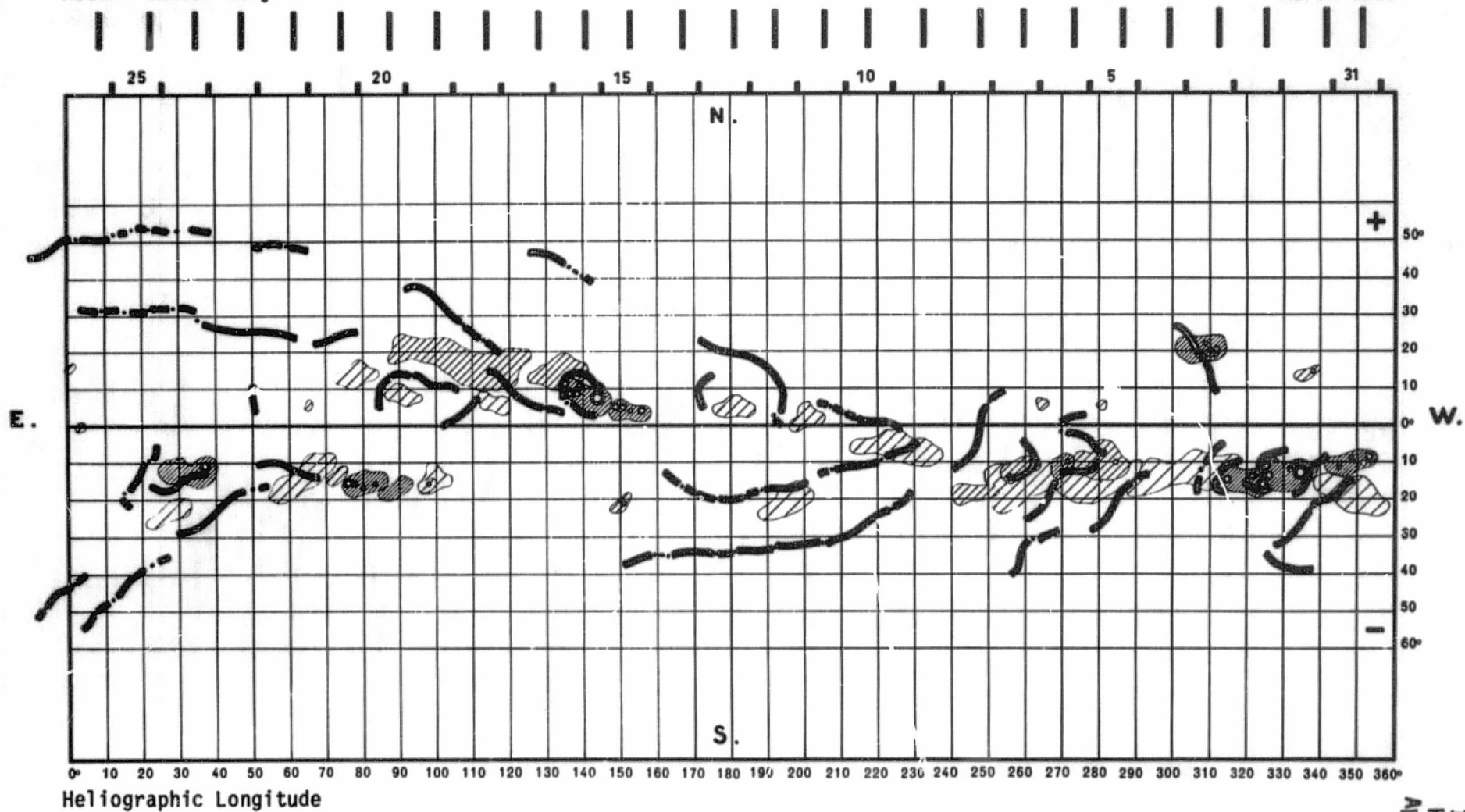


# CARTE SYNOPTIQUE

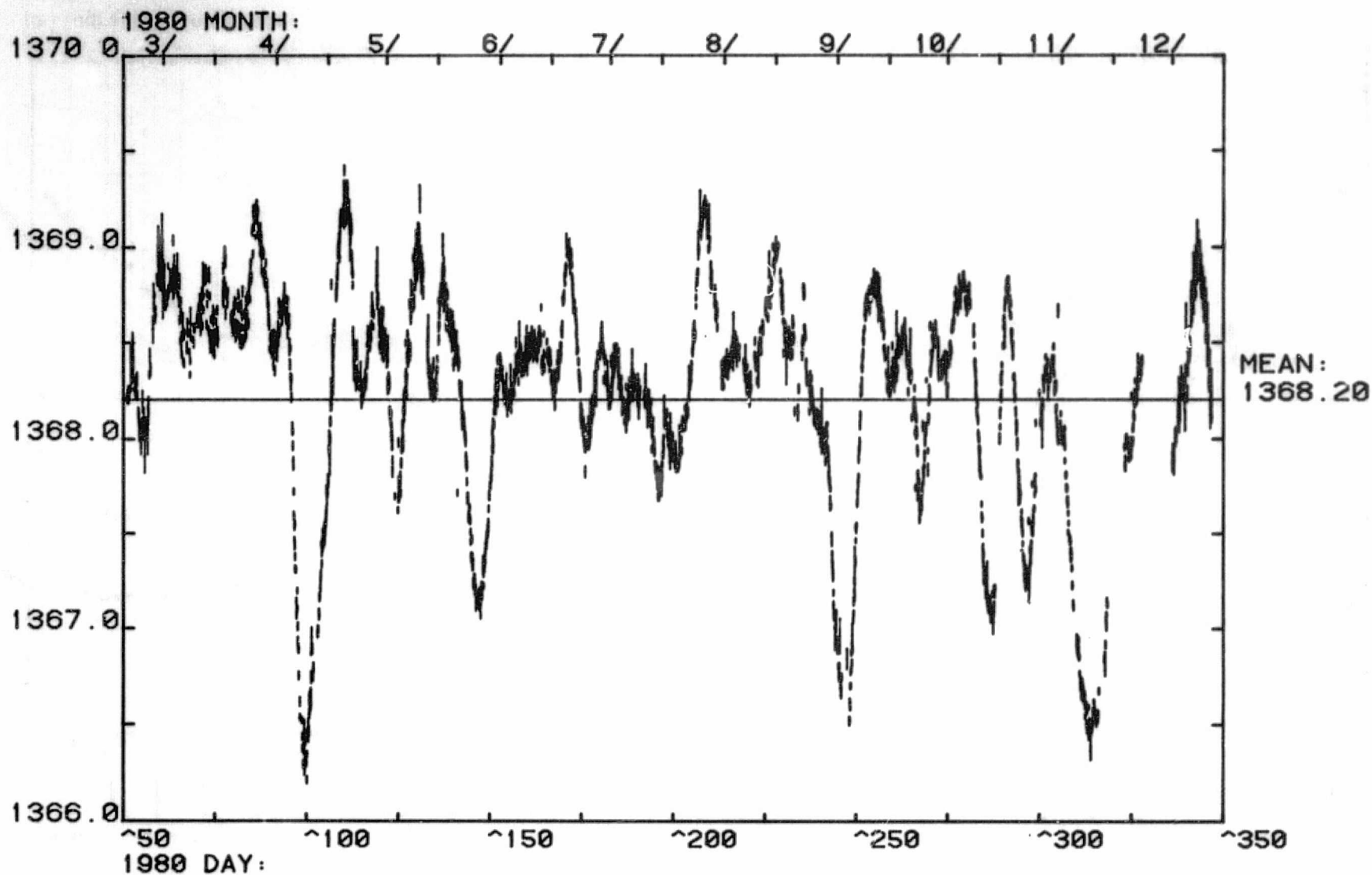
CARRINGTON ROTATION NUMBER 1747  
(March 30 to April 26, 1984)

Meudon Observatory

March 1984



107  
MISC  
Apr 84



SMM/ACRIM RESULTS \* ORBIT MEAN VALUES AND THEIR UNCERTAINTIES  
 Total solar radiation data from the SMM satellite for the period March-December 1980.